UNIVERSITY COLLEGE LONDON

ANNUAL REPORT 1984-1985

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FOREWORD BY THE PROVOST

PART I. SOME HIGHLIGHTS OF THE YEAR

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PART II. A SUMMARY OF RESEARCH PLANS AND PRIORITIES

A. Research plans and priorities in Clinical Sciences, Medical Sciences and Biological Sciences for University College London including the future University College and Middlesex School of Medicine.

B. Research plans and priorities in Physical Sciences, Mathematical Sciences, Engineering, Architecture, Social Studies and Arts for University College London, incorporating the plans of the Institute of Archaeology in anticipation of its planned union with the College.

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PART I. SOME HIGHLIGHTS OF THE YEAR

1. *Depicting Bloomsbury's research strengths*

The academic year 1984-85 demanded at UCL a continuously high level of preoccupation with the task of depicting research strengths and defining research plans and priorities. From the year's beginning it was clear that the University Grants Committee had adopted a policy of selective support, within each main subject-area, for centres of special research excellence. The identification of such centres was to be based partly on factual material, including records of publications such as appear regularly in this Annual Report. Also, in many subject-areas, that factual material included quantitative indications of success in the competitive winning of research support from external organisations making use of 'peer review' in the distribution of research grants. In all areas, furthermore, such factual material regarding past achievements needed to be supplemented by forward-looking indications of research strategy.

Against this background, the preparation of research strategy documents was throughout the year a continued activity on the part of Academic

Planning Committee*. From the outset the Committee felt confident that factual material about the College's research achievements would tell a most impressive story in each main subject-area covered. It was seen, however, as essential that this should be accompanied by clear narrative outlines of the development of research objectives. To this end, first drafts of research strategy documents were compiled for many subject-areas (with Deans playing a key coordinating role) during the first term, leading on, after extensive discussions towards the end of that term, to some more refined research strategy statements being produced during the following term. Without all this meticulous preparation it would have been most difficult for the College to respond properly when it at last received the definitive UGC letter dated 9 May 1985, calling for a full Research Statement in a prescribed form from every academic institution by the end of September. In fact, a special meeting of Academic Board on 17 September was able to approve unanimously a Statement of the highest quality, which had been prepared in the form required during the intervening four months.

Early drafts had already made it apparent that combined descriptions of research strategies for Medical Sciences and for Biological Sciences, with their very close and fruitful relationships at UCL, would be essential. Also, the rapid and effective progress towards unification of the new University College and Middlesex School of Medicine as a new single School of Medicine within UCL, described in section 2 below, led to universal acceptance of the need for a single research statement covering all five components of the School of Medicine. These considerations, taken together, implied that it was important to develop a coherent integrated account of 'Research Plans and Priorities in Clinical Sciences, Medical Sciences and Biological Sciences for UCL including the future University College and Middlesex School of Medicine'. Such a document would be prepared for submission not only to the University Grants Committee itself but also to the UGC Medical and Dental Sub-Committees who were due to visit the School of Medicine (including the Dental School) on 11 November 1985.

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* And of its predecessor the Academic Development Sub-Committee, strengthened and redesignated Academic Planning Committee during 1984-85 as described in section 3 below.

The resulting Summary of Research Plans and Priorities, reproduced below as Section A of Part II, was accompanied by much more detailed Research Profiles for each of 17 subject areas referred to as numbered 'Cost Centres' in accordance with the UGC's wishes (see code at end of Section A). Although these detailed Research Profiles are not reproduced here, I believe that readers of the Annual Report will find the Summary valuably indicative of the very special research strengths in Clinical Sciences, Medical Sciences and Biological Sciences that have been combined together in Bloomsbury.

Section B gives similar statements of research plans and priorities for (i) Engineering and the Mathematical and Physical Sciences, and (ii) Language-based Studies and the Humanities, Social Studies, Architecture and Fine Art. During the process of refinement of research statements for the Humanities it became clear that a combined statement of the valuably interacting research strengths in Archaeology and Ancient World Studies at University College London and at its distinguished near neighbour the Institute of Archaeology would demonstrate a most powerful Bloomsbury concentration of special research excellence in that field. This led to agreement between the Institute and the College to produce a combined Research Strategy document, a summary of which is included in Section B below; and, furthermore, to begin to formulate plans for possible organisational unification of the two institutions. These plans, which have continued to make excellent progress, are based on the principle of the Institute of Archaeology retaining its distinctive and internationally renowned identity, under its own Director, while at the same time taking its place as a large Department within UCL's Faculty of Arts (broadly, on the model of the Slade School). University College London welcomes the possibility of this valuable accession of great additional strength in an area of the Humanities resting firmly on integrated arts-based and science-based foundations.

The overall Summary of Research Plans and Priorities in (i) Engineering and the Mathematical and Physical Sciences and in (ii) Language-based Studies and the Humanities, Social Studies, Architecture and Fine Art given below in Section B was accompanied by 30 detailed research profiles, not reproduced here. Out of these, 24 were research profiles for individual subject areas, identified as numbered 'Cost Centres' in accordance with the UGC's wishes (see code at end of Section B). In addition, profiles were given for 6 Interdisciplinary Groupings representing important coordinated research activities: Marine Technology, Remote Sensing, Biotechnology, History of Science and Medicine, the Bentham Project, and finally the very extensive coordinated activity in Archaeology and Ancient World Studies

to which reference has already been made. All of this material is covered in Section B in summary form. I believe that, taken together, Sections A and B of Part II may be found by readers of the Annual Report to give a most valuable general picture of the research strengths of UCL working in close association with all its new partners in Bloomsbury.

During the same academic year 1984-85, some independent confirmation of the College's research strengths in scientific fields came from the Royal Society's announcement in March of its elections to the Fellowship. Six members of the College staff were elected FRS:

Professor David Colquhoun (Department of Pharmacology)
Professor Leonard Culhane (Department of Physics and Astronomy)
Professor John Midwinter (Department of Electronic and Electrical Engineering)
Professor Martin Raff (Department of Zoology and Comparative Anatomy)
Professor Michael Thompson (Department of Civil and Municipal Engineering)
Dr Anne Warner (Department of Anatomy and Embryology)

The College's warm congratulations go to them all.

The new elections, which in Bloomsbury more than balanced the effect of recent retirements of Fellows of the Royal Society, raised the overall numbers of FRS on the combined current staffs of UCL and The Middlesex Hospital Medical School to 19.

During the summer of 1985 we were conscious too that the British Academy would be excellently represented by Fellows within our future united grouping in Archaeology and Ancient World Studies, since two Professors in the field of Archaeology at UCL (Nicholas Coldstream and Harry Smith) and two Professors at the Institute of Archaeology (John Evans and Roy Hodson) are Fellows of the British Academy while the College's vacant Professor of Ancient History is being filled by Mr Michael Crawford, FBA. In the meantime, our admired Professor Sir Randolph Quirk was elected President of the British Academy to the great joy of the College, while, during the same summer period, the Presidency of the Royal Society continued to be in the hands of our Emeritus Professor Sir Andrew Huxley, who addressed the 1985 Assembly of Faculties with a most eloquently interesting and encouraging speech as Guest of Honour.

One further independent confirmation of balanced research strength in the different main subject areas of UCL emerged from the list of research fields within which the College won new posts under the New Blood Scheme, and under the associated Information Technology scheme, in

1984-85 (the final year of these schemes): History of Philosophy, Cognitive Linguistics, Nutritional Anthropology (with the London School of Hygiene and Tropical Medicine), Bacterial Ecology, Synthetic Organic Chemistry, Data Communications Networks, Algebra, Theoretical Atomic Physics, Molecular Biology of Neural Cells, Traffic Studies, Fibre Optic Signal Processing for Local Area Networks, and Immunopharmacology. This total of 12 new posts exceeded every other institutional total, over the country as a whole, for New Blood and Information Technology posts combined; including totals of 11 each for Cambridge, Edinburgh, Leeds, Manchester and Oxford; 8 for Liverpool; and 7 each for Glasgow, Imperial College and Southampton. Our College can, perhaps, feel some satisfaction in having headed the UK list in one of the three years of operation of these valuable schemes, even while we must view with real sadness those schemes' termination.

This section has concentrated on research strengths but it is of course fundamental to the College's philosophy that these interact in the most profound way with UCL's strengths in advanced teaching. It is the deep involvement of all areas of the College in original work at a high international standard that makes all of them so attractive to our large numbers of students. It is noteworthy that the 1984-85 numbers of full-time students registered at the Institute of Archaeology (185), at University College London (6,297), and at The Middlesex Hospital Medical School (518) add up to exactly seven thousand. Thus, without counting those (mainly, qualified doctors) who benefit so greatly from specialised training at our three closely associated postgraduate Institutes, we are envisaging a Bloomsbury full-time student body of 7,000 for the enlarged UCL, a figure which we see as re-emphasising the continued urgent importance of working to improve general facilities for our admirable student population.

2. *The University College and Middlesex School of Medicine*

During the immediately preceding academic year 1983-84 the governing bodies of UCL, of The Middlesex Hospital Medical School, and of our three closely associated postgraduate Institutes (of Laryngology and Otology, of Orthopaedics, and of Urology) had voted unanimously to agree the recommendations of the Single School Working Party. These included the proposal that the existing Joint School should develop into a new, fully unified, single School of Medicine, within University College London, with effect from 1 August 1987. To ensure the smooth implementation of all the recommendations, the Joint School Coordinating Committee set up a Unification Sub-Committee.

During 1984-85 the Unification Sub-Committee was continuously and energetically active, with the assistance of eleven Working Parties which most assiduously probed different aspects of the unification programme to the great benefit of the School as a whole. Finally, the Unification Sub-Committee produced the admirable document *Report and Recommendations on the Establishment of the University College and Middlesex School of Medicine of University College London* which comprehensively sets out all the provisions of the proposed unification programme.

By the end of the academic year 1984-85 all five governing bodies had once more taken unanimous action in approving the recommendations of this important Report in its final version. Throughout the School there is a profound feeling of indebtedness to those who made possible this consensus; and, especially, to the members of the Unification Sub-Committee: Professor D. V. I. Fairweather (Chairman); Mr W. W. Slack (Vice-Chairman); Professors A. G. Alexander, D. W. James, A. P. Mathias, I. M. Roitt, J. G. Semple and B. A. Wood; Mr J. P. S. Cochrane, Mr P. McKelvie, Mr J. P. Pryor, Mr E. L. Trickey and Dr P. J. Verrill; all working with the greatly appreciated assistance of Mr C. H. Audaer, Mr I. H. Baker, Mr B. A. Blatch, Mr D. V. Bowles, Mr M. Coops, Miss Marilyn J. Gallyer, Dr Diana F. Sanders, Mr R. Walker and Mrs Janet M. Wolfinden.

The Report recommends the establishment by Act of Parliament of the new University College and Middlesex School of Medicine within UCL the unification date being 1 August 1987 as previously agreed. The School will incorporate two powerful Faculties (a Faculty of Clinical Sciences and a Faculty of Medical Sciences) together with a large Academic Forum comprising members of both Faculties and a small Committee of the School of Medicine able to give a lead and focus for programmes of development of the new School. Each Faculty will be led by a Dean and the School as a whole will be headed by a Vice-Provost. A Secretary of the School of Medicine will report both to the Vice-Provost as Head of the School and to the Secretary of UCL. Further details of the recommendations (which fill 23 pages) will not be given here, but it is valuable and appropriate to note both their full coverage of organisational detail and the unanimous backing given to them.

A most important beginning was made also during 1984-85 towards planning the physical unification of departments of the University College and Middlesex School of Medicine on single sites. The broad picture was clear already by the end of the academic year, with concentration of three leading Pathology Departments on the Middlesex site, together with similar physical unification on that site of Psychiatry and of Oncology Research, alongside certain Biochemistry research groups, balanced by

concentration of the remainder of Biochemistry, together with Anatomy, Physiology, Pharmacology, Haematology and Obstetrics and Gynaecology, on the University College site. Other substantial developments, of major importance for the School as a whole, were projected for the Whittington Hospital site in the Islington District. Details of how all of these very promising plans are being comprehensively put into effect will be included in the Annual Report for 1985-86. The whole of the University College and The Middlesex School of Medicine feels confident in its future on the basis of the successful work of meticulously careful planning that has already been done.

3. *The Jarratt efficiency studies*

University College London was one of the six institutions picked out by the Committee of Vice-Chancellors and Principals (alongside the Universities of Edinburgh, Essex, Loughborough, Nottingham and Sheffield) for efficiency studies to be carried out during the first half of 1984-85 under the direction of the CVCP's Steering Committee chaired by Sir Alex Jarratt. The UCL Study Officer, appointed by the College with the agreement of the Committee to conduct studies both of General Management and of Financial Management, was our Internal Auditor Mr A. C. Howe. His report, together with those of the Study Officers appointed by each of the other five institutions, was published in April 1985 alongside an overall Report of the Steering Committee itself, and the College at once proceeded to consider action which might need to be taken in the light of the extensive studies which had been made.

The report of the Jarratt efficiency studies of General and Financial Management at University College London was composed jointly by the UCL Study Officer and by the management consultants Deloitte, Haskins and Sells. Its main conclusion (paragraph 9 of the General Management report) was that 'the overall governance of UCL, in terms of its organisational structure and decision processes, is generally effective'. The report went on to support this view by commending the management roles of the Provost, Vice-Provosts, Deans and Heads of Departments, the harmonious cooperation of administrative and academic staff, the effective operation of the committee structure, and the capability of the organisation to arrive at decisions without undesirable delay. Systems for budgetary control and for the devolution of financial responsibility were pronounced satisfactory.

The report went on to ask for a greater formalisation of the College's planning process. The College, in response, has vested this in a strong

Academic Planning Committee including three lay members of Council.

University College London is most fortunate in the quality and distinction of its lay members of Council, many of whom are extremely well informed about UCL through departmental visits and through attendance at a variety of college committees. In addition, the Chairman and Provost hold regular informal meetings of lay members for discussion and information purposes in order to assist the Council in its vital role of governing the College, and the value of these meetings was stressed in the report. The College concurs, and has doubled the frequency of such meetings as the report suggested. In the meantime, as the report also proposed, a lay member with a legal background in commercial law (Mr S. P. Chalfen, Director of Legal Services at Rank Xerox Ltd.) has been appointed to the Council.

The report suggested that the College's Governance Committee should conduct a further exercise aimed at slimming the committee structure. The Committee agrees and has already embarked on this. Also, the report's recommendations about staff appraisal, and staff training and development programmes, are beginning to be put into effect.

The Committee charged with Buildings Planning has already appointed a small Sub-Committee concerned with producing the longer-term plan for space needs and usage which the report recommends. However, the College is not as yet convinced of the wisdom or feasibility of the report's recommendations about space-related costs being charged internally to departments.

The College's computer-based administrative systems are being worked over very thoroughly with a view to effecting major improvements both in the finance area and in the registry area. This work now actively in progress follows closely the recommendations in the efficiency study of UCL and in a subsequent report concerned with the entire administrative-computing network of the University of London by the same management consultants Deloitte, Haskins and Sells.

The UCL report recommended coordinated planning of 'hospital and medical school activities'.Valuable improvements in the coordination of planning are now being achieved along lines that have been worked out between our Joint School of Medicine and the two District Health Authorities with which it cooperates. A Joint School/Health Authorities Liaison Committee plays a major role in initiating this increased level of coordination.

Finally, the report emphasises the value of performance indicators. The College agrees completely, having indeed made pioneering use of many of these in the planning of both resource distribution and student numbers

distribution between Departments. Large numbers of performance indicators are included (together with their distribution across different areas of the College) in the College's Research Statement. Those indicators of excellence in research and scholarship are matched by equally impressive data about the excellence of the College's students and about the high quality of the teaching they receive. For example, in every one of the past ten years the proportion of UCL students taking first degrees in arts-based or science-based subjects who achieved either a First Class or an Upper Second Class degree lay in the range between 45 per cent and 47 per cent. These are exceptionally high percentages.

We are grateful to those responsible for the Efficiency Study for their many helpful and constructive suggestions. We are content, too, that these were made within a framework of commendation of the general administration and management of UCL, an institution fortunate in that the effectiveness and devotion of staff within the College Administration match most admirably the corresponding qualities of staff in academic departments with whom (as the report notes) they collaborate so well.

PART II. A SUMMARY OF RESEARCH PLANS AND PRIORITIES

A. RESEARCH PLANS AND PRIORITIES IN CLINICAL SCIENCES, MEDICAL SCIENCES AND BIOLOGICAL SCIENCES FOR UNIVERSITY COLLEGE LONDON INCLUDING THE FUTURE UNIVERSITY COLLEGE AND MIDDLESEX SCHOOL OF MEDICINE

Just as powerful resources for undergraduate and postgraduate medical and dental education pursued in common with the teaching of a wide variety of biological disciplines are being consolidated through the combined utilisation of the clinical resources of Bloomsbury and Islington and the formation of unified single-site Departments in pre-clinical disciplines and most clinical disciplines, so also the new University College and Middlesex School of Medicine working in close coordination with Biological Sciences departments of UCL is marshalling research teams of outstanding excellence and breadth within these fields. Benefits are already emerging rapidly from the pooling of research resources (for example, in Medical Microbiology, Community Medicine, Psychiatry, Geriatric Medicine, Oncology, General Medicine and Physiology) while the new School's plans envisage the early emergence of similarly great benefits from the pooling of research resources in other areas such as Developmental Biology, Biochemistry, Surgery and various branches of Pathology.

(1) *Plans and Priorities in Clinical Medicine (Cost Centre 1, hereafter abbreviated to* CC1 *and divided in the code at the end of Section A into* CC1a *to* CC1h*) and Clinical Dentistry* (CC2)

The new School's unified *Department of Medicine* (in its restricted sense; part of CC1a) pursues coordinated researches at The Middlesex Hospital, at UCH and at the Whittington Hospital. It exhibits major research strength in endocrinology (especially, on the endocrine control of growth and development, of reproductive function, and of mineral metabolism), as well as in a variety of areas of clinical research on diabetes including metabolic studies fundamental to the development of vascular disease in that condition. The Department continues well established programmes in inborn errors of metabolism and in the aetiology of renal tubular acidosis. It is also engaged in important respiratory researches, including fundamental investigations of mechanisms of respiratory and circulatory control during exercise. In the meantime, improvements in therapeutic regimes for hypertension and other cardiovascular disorders continue to emerge from the Clinical Pharmacology Department; which also includes a major

research group in toxicology with special emphasis on mechanisms of toxicity, risk assessment and treatment. The School plans to strengthen still further its scientifically based research capabilities in general Medicine through an outstanding appointment to the Charles Dent Chair of Medicine vacated by Richard Edwards.

A most satisfactory feature of the new School is that it includes an extremely large and internationally distinguished interlinking of major groups in *Cancer Research,* with massive external support, located in the Oncology Department (CC1a) and in various Pathological and Surgical sections of the School. Especially noteworthy are the comprehensive fundamental and clinical studies of Hodgkin's disease and non-Hodgkin's lymphomas (CC1a and 1c; the Oncology Department being the centre for the British National Lymphoma Investigation); large contributions (CC1a) to the UK Cooperative Multi-Centre Chemotherapy Trial for breast cancer; extensive clinical research (CC1a) on Small Cell Lung Cancer; pioneering developments (CC1a and 1c) of treatment by appropriate high-dose therapy followed by autologous bone-marrow transplantation in Leukaemia and related disorders; a major collaborative study (CC1a and 1c) of carcinogenesis and anti-carcinogenesis in the human bladder and in animal model systems; clinical research (CC1d) on cervical and vulval cancers; advanced clinical and experimental studies (CC1e) of colon cancer and its treatment; innovative developments (CC1e) of Therapeutic Endoscopy including especially tumour therapy by the delivery of laser light through flexible-fibre systems; the promising investigation of a therapeutic agent for treatment of melanoma (CC1c); extensive clinical research (CC1g) on malignant diseases of bone and cartilage and (CC1h) on the causes and treatment of prostatic, bladder, testicular and renal tumours; systematic studies (CC9) of carcinogens (including methods for their detection and the biochemistry of their removal); and, last but not least, the distinguished contributions of the Imperial Cancer Research Fund Tumour Immunology Unit linked to the Zoology Department (CC11b). The School aims to attract further major research groups to join those noted above (including a possible branch of the Ludwig Institute for Cancer Research), and plans to strengthen them academically through an appointment to a newly endowed Kathleen Ferrier Chair of Oncology.

Innovative work in *Pathology* departments (CC1c) in non-cancer fields includes extensive development and exploitation of novel diagnostic methods. Also, a major cardiovascular research group has achieved many successes; for example, on mechanisms of myocardial damage and on aspects of the effects of smoking on arterial endothelial cells. Elsewhere, new discoveries have been made in the pathology of sickle-cell anaemia;

while studies of transmembrane signalling have led to fundamental advances in knowledge of receptor function and activation. In Haematology, a group concerned with the immunodeficiency disorders has made important studies of neutrophil phagocytosis in health and disease. A group, which made the first discovery of the fetal haemoglobins, has followed it up by major researches concerned with the mechanism of the switch to adult red-cell production. The Molecular Endocrinology group has developed new methods for the measurement and study of free hormone in blood, together with valuable new approaches to immunoassay.

In the meantime the distinguished Immunology Department has continued to make major advances based on its early demonstrations that autoimmune processes are of primary importance in a number of human disorders; these new advances include especially work on rheumatoid arthritis and on autoimmune thyroid disease. The Department has also uncovered the autoimmune basis of insulin-dependent diabetes. In other fields of immunology it has made seminal studies on food allergy, has successfully investigated mechanisms underlying immunity (or defects in immunity) to malaria; and is engaged in novel approaches towards vaccine development.

An integrated Department of Medical Microbiology under a new professorial head combines impressive strengths in the field of mycobacterial disease and its immunotherapy with extensive achievements in virological research. These include fundamental and clinical researches into human parvovirus and its effects, into rubella and into hepatitis B; while the Department also plays an increasingly important part in the research programme (see below) on AIDS.

The School prizes its research strengths in the broad Pathology field, and plans to build actively on these in the future. Current work in association with Bloomsbury DHA to bring together each Pathology Department on a single compact site will (on the assumption of UGC support) reinforce the field's research effectiveness.

The School's well known and well related research strengths in perinatal *Paediatrics* (CC1a) and in *Obstetrics and Gynaecology* (CC1d) will be strongly maintained in the future; for example, as earlier very successful developments in antenatal diagnosis (notably, of thalassaemia and other haemoglobinopathies, are extended through important current innovations in first-trimester diagnosis by the CVS technique. Similarly, earlier big advances in knowledge related to the development of the fetal lung and to its adaptation at birth are being increasingly applied to the reliable assessment of fetal lung function; there will be continued development, investigation and evaluation of this and of many other approaches to the

fetal status *in utero.* Fundamental studies of cerebral metabolism in neonates have been accompanied by successful clinical research using NMR Spectroscopy in the ^{31}p nucleus to detect the presence of brain damage in preterm infants; and major increases of activity in this area too are planned. Existing valuable work on reproductive endocrinology, related both to contraception and to methods of combating infertility, will also be futher developed.

We may note that contributions from *Medical Physics* (a joint Department between UCL and UCH) play an important role in many of the developments described above, including those in NMR Spectroscopy, in the assessment of perinatal status, and in Laser Therapy. Developments of transcutaneous sensors for the measurement of gas tensions in the blood of neonates have been pursued in clinically and financially fruitful partnerships with industry. Many other instrumental developments (especially, in neurological fields) are also being successfully undertaken. The Middlesex Department of Nuclear Medicine with its excellent research programme which currently includes promising further developments of SPET (Single Photon Emmission Tomography) together with the increasing utilisation of agents labelled with Technetium — 99m also contributes substantially to many multidisciplinary clinical programmes.

The School's researches (CC1e) in the fields of *Surgery and Gastroenterology* include (besides the Colon Cancer work already mentioned) some major studies in the field of peptic ulceration, another condition where treatment by Laser Therapy is being extensively investigated. Long established work on the pharmacological treatment of the disease is also being further developed. For Gastroenterology patients in general the problem of their appropriate nutrition both before and after surgery is proving to be a most fruitful subject for study (described under CC1e as Clinical Nutrition). Other important researches in Surgery are devoted to general questions of metabolism in patients during and after surgical operations. There is, in addition, a major research group concerned with diseases of the pancreas and another concerned with Peripheral Vascular Surgery.

In the areas designated by NHS as *Priority Care Groups,* the new School has been taking active steps to make professorial appointments of high quality aimed at promoting excellence in research as well as in teaching. These areas (CC1b) are, broadly speaking, 'community-centred' and they include Community Medicine itself where, under the new Professor, there is a major research group concerned with epidemiology; especially, of cardiovascular disease and diabetes. They include also Psychiatry, with the new Professor bringing very active work (for example, on the design of health indicators, on the psychotherapeutic management of breathlessness

and on molecular research in psychiatry) to complement previously existing work (for example, on psychosomatic expert system design and on the psychophysiology of schizophrenia). The new Professor of Geriatric Medicine has formed a major research group concerned with the clinical biochemistry of the elderly with special reference to nutrition and thermoregulation. The distinguished Department of Genito-Urinary Medicine is active in many fields but has built up particularly strong research groups concerned with the epidemiological clinical, immunological and virological asepects of AIDS and with the epidemiology, natural history and treatment of genital herpes. The School aims to expand research in all of the above fields and to make a further professorial appointment in Primary Health Care (for which special UGC funds have already been granted) to allow a similar development of research in that area.

The Institute of *Laryngology and Otology* (CC1f) includes a major research group in Auditory Response Biophysics, internationally distinguished for its discovery of cochlear echoes and for pioneering their clinical applications. There is other important work in experimental audiology and on psychological aspects of tinnitus and of vestibular disorders; while new techniques have been developed in aspects of the pathology of the larynx and of the cochlea (especially, an innovative method for examining the temporal bone). There are, too, extensive studies on the comparative anatomy of the larynx.

The Institute of *Orthopaedics* (CC1g) is engaged in fundamental and clinical research on osteoarthritis, on metabolic bone disorders and on scoliosis; together with wide ranging investigations of the properties of cartilage in health and disease including cartilage allografting studies. It includes a Biomedical Engineering research group that is, for example, actively investigating the permanence or otherwise of percutaneous implants.

The Institute of *Urology* (CC1h) includes a major research group in Urinary Calculus Disease which occupies a leading position in research on the minimally invasive methods of renal stone disintegration. Another major group is concerned with the development of techniques for reconstructive surgery of the lower urinary tract. There are many other important researches including not only the oncological studies that were mentioned earlier but also a multidisciplinary study in children of the effects on the urinary tract of congenital abnormalities and other childhood disorders.

The impressive research in progress at all three postgraduate Institutes already interacts significantly with research work at UCL and at The Middlesex. These interactions are seen as likely to grow very substantially

in the future. Similarly, the effectiveness of all of the School's research activities within CC1 is expected to grow as work within particular disciplines becomes more integrated; principally, within unified, single-site Departments.

The *Dental School* (CC2) has long included an important research group in periodontology, achieving big systematic advances through (especially) the development and use of transducers measuring tooth displacement. Another distinguished group, in Orthodontics, Oral and Maxillo-facial Surgery, is now engaged on a major research project in the field of facial reconstruction. In the meantime, two new professorial appointments have led to the formation of two more major research groups; one in Community Dental Health and Dental Practice concerned with prevention and treatment strategies and other matters including the psychology of dental care; and one in Oral Microbiology directing its researches towards establishing more quantitative data in relation to the action of bacteria on teeth. Clinical research in the Dental School also benefits greatly from the fundamental researches in Mineralised Tissue Biology which are described next (CC4a).

(2) *Research Plans and Priorities in Basic Medical Sciences and in Biological Sciences (*CC4, 5, 9, 10 *and* 11*).*

The *Hard Tissue Unit* (CC4a) is well known for its ultrastructural, developmental and functional studies of mineralised tissue biology, with applications not only in Dentistry and Orthopaedics but also in Biological Anthropology and Archaeology. The work extends to studies of incremental phenomena in mineralised tissues, rhythmicity of formation and the resulting nonuniformity and anisotropy of hard tissue structure.

Developmental Biology in general represents one of the new School's important combined strengths in Basic Medical Sciences. Fundamental studies (CC4a) of how genetic information is transformed into spatial arrangements of differentiated cells in early embryonic development are being concentrated fruitfully upon pattern formation and limb morphogenesis, with special emphasis on cell-cell interactions, on forces between cells and substrates, and on various aspects of intercellular communication. Other important work is concerned with differentiation of nerve and muscle cells, the early development of excitable cells and the significant role of gap junctions. Genetic studies (CC11a) of Mammalian Development, pursued in cooperation with an MRC Unit, are concerned especially with hearing and with sexual differentiation.

The new School also brings together important combined strengths in

applied molecular biology, in regulation of metabolism (both CC9), and in immunology (CC1c and 11b). These are complementing established Basic Medical Sciences strengths at UCL in muscle physiology and in the neurosciences, including peripheral nervous system and CNS studies.

For the mammalian *Central Nervous System,* fundamental studies of histogenesis (CC11b) have led to the definition of new sub-classes of neural cells, allowing a determination of the cell lineages and the cell-cell interactions involved in cellular differentiation. This work continues to be most significant for the understanding of congenital diseases affecting the CNS. Other groups in CNS neurobiology (CC4a) occupy leading positions in pain research, in the role of the hippocampus in spatial memory, in the role of the prestriate cortex in colour vision, and in certain other aspects of the organisation of the visual cortex. Physiological studies (CC4b) include research into the control of the microenvironment of CNS neurons, especially by glial cells, and into long-term changes of neuron excitability in the cerebral cortex. Understanding of the chloride channel mediating inhibition in the nervous system has been refined through its simultaneous study in normal animals and in mutants where the channel is modified. Also, brain development during very early life is investigated; especially through researches on nerve growth factor as well as through cooperative studies with Paediatrics (CC1a) using NMR Spectroscopy.

Peripheral Nervous System studies include important work on autonomic neuroeffector systems (CC4a) and on nervous control of visceral and cardiovascular systems in health and disease. Other researches on the mechanism of formation of neuromuscular junctions are being actively pursued, with promising implications for the treatment of muscular dystrophy. A noted biophysical group (CC4b) has substantially increased knowledge of the events underlying the conversion of light to a neural signal by the retina.

Distinguished work on *Receptor Mechanisms and the Pharmacology of Synaptic Transmission* (CC5) uses refined electrophysiological and biochemical techniques to study receptors on a wide variety of cell types from the periphery and, increasingly, from the CNS. Ultimately, valuable drug developments are foreseen from such pharmacological characterisation of different types of ion channel.

In *Muscle Physiology* (CC4b), earlier classic studies on the fundamental events occurring during contraction of striated muscle continue to be greatly extended; especially, through meticulous determinations of energy budget. Other researches, on the mechanisms by which force production of cardiac muscle is regulated, have also made rapid progress through simultaneous use of a wide range of new techniques. Related anatomical

work (CC4A) includes valuable studies of smooth-muscle ultra-structure and its relation to mechanical properties.

Within *Immunology*, the large and distinguished research group (CC11b) concerned with the cellular and molecular biology of the immune system continues to make fundamental advances in the understanding of the immunoregulatory T-cell system; as well as in applications of that knowledge in many areas of Cancer Research and in other clinical fields. Complementary researches in different areas of Immunology (CC1c) were described earlier. An Immunopharmacology group (CC5) is active in studying the way in which drugs modulate immune reactions and the release of histamine from cells.

We may note here certain very direct clinical applications of Physiology or Pharmacology researches within the School's recently unified Departments. They include various studies (CC4b and 5) of Parkinsonism and of related diseases, the development (CC4b) of a synthetic neuropeptide for the treatment of dysmenorrhea and the investigation of a link between changes in intestinal absorption epithelial bacteria and starvation.

Combined *Biochemistry* strengths within the new School (CC9) include extensive and important work on the regulation of metabolism, with applications (in particular) to diabetes and a wide range of its complications, to the lipid-related diseases and to myocardial diseases. They include also some even more extensive capabilities in applied molecular biology, enzymology and biotechnology.

One very active group applying recombinant DNA technology to fundamental and clinical problems has, in particular, uncovered important aspects of the structure and regulation of human genes responsible both for calcitonin and for a related peptide whose pharmacological action has also been investigated (CC5). In addition, other studies utilising pseudomonad bacteria and also yeasts in recombinant DNA researches have continued to be most fruitful. (For relations of this work with Biochemical Engineering see Interdisciplinary Grouping II.) Important earlier advances in the molecular biology of human cytochrome P450 have been further extended. A recent initiated programme in the area of gene probe development and related fundamental studies is actively supported by a newly established company, London Biotechnology Ltd. Other biochemical studies in the area of molecular biology and enzymology include important work on the fast reaction kinetics of enzyme systems, on the study of enzymes from extreme thermophiles, and on the mechanisms of haemoglobin subunit dissociation and association.

The *Galton Laboratory* (CC11a) is deeply involved in human DNA structure, gene expression and cytogenetics. Within the large international

Human Gene Mapping project, the Galton is particularly involved with mapping chromosomes 1, 19 and Y. These are areas where the UCL Department of Genetics and Biometry works in close association with the adjacent Human Biochemical Genetics Unit and Blood Group Unit of MRC. Now the Galton has begun to participate in oncogene research.

Several closely interacting groups (CC11a, b and c) concerned with *Population Genetics, Ecology and Conservation* utilise both field studies and mathematical models of genetic variation, together with researches in areas as diverse as pharasitology, bird behaviour and water pollution. Bacterial population studies and associated Molecular Ecology are also brought into play. The work is increasingly concerned with the combined application of plant and animal ecology to the conservation of wetlands of international importance for wildlife.

Cytoskeletal studies of eukaryotic microorganisms (CC11b and c) are directed particularly towards the molecular interpretation of motile behaviour and differentiation of the motile apparatus. There is, in addition, substantial work on mechanisms of mitosis.

In *Botany* (CC11c), a major research group in the biophysical analysis of mechanisms of photosynthesis is now accompanied (following a new appointment to the Quain Chair of Botany) by three other major research groups. These are concerned with nitrogen metabolism, with the biochemistry of response to pathogens, and with the mechanisms of plant adaptation to salinity, drought and high temperatures.

Finally, the large UCL Department of *Psychology* (CC10) includes substantial research of a biologically or medically oriented character, with a smaller amount of work oriented towards Social Studies. Plans for the future are based on six major groupings of current research activity. Research activity in clinical and medical psychology includes studies of psychological methods for the management of chronic illness, together with distinguished work by the externally endowed Unit for Psychoanalysis. A group concerned with cognitive and social development works very closely with the MRC Cognitive Development Unit. Research in the Ergonomics of Information Technology is focussed especially on the analysis of knowledge and its use in human/computer interaction. An active group working on Language and Cognition is concerned with speaking, reading, memory and reasoning both in normal and in abnormal subjects. There is an excellently equipped group working on perception and motor control. There is also a substantial research programme in psychobiology (including psychopharmacology) pursuing research relevant to human psychology using animal models.

In all areas of Basic Medical Sciences and Biological Sciences, high

priority in a period of declining resources is assigned to the maintenance of major research groups of proven successful achievement, such as have primarily been highlighted in the above brief overview.

Code for 'Cost Centres' mentioned in Section A

(1a) *General Medicine* (including Paediatrics, Clinical Pharmacology, Oncology, Nuclear Medicine and Neurology); (1b) *Community-centred Medicine* (including Psychiatry, Genito-Urinary Medicine and Geriatric Medicine); (1c) *Pathology* (including Haematology, Immunology, Medical Microbiology, Medical Physics and Molecular Endocrinology); (1d) *Obstetrics and Gynaecology;* (1e) *Surgery;* (1f) *Laryngology and Otology;* (1g) *Orthopaedics;* (1h) *Urology;* (2) *Clinical Dentistry;* (4a) *Anatomy;* (4b) *Physiology;* (5) *Pharmacology;* (9) *Biochemistry;* (10) *Psychology;* (11a) *Genetics;* (11b) *Zoology;* (11c) *Botany and Microbiology.*

B. RESEARCH PLANS AND PRIORITIES IN PHYSICAL SCIENCES, MATHEMATICAL SCIENCES, ENGINEERING, ARCHITECTURE, SOCIAL STUDIES AND ARTS FOR UNIVERSITY COLLEGE LONDON, INCORPORATING THE PLANS OF THE INSTITUTE OF ARCHAEOLOGY IN ANTICIPATION OF ITS PLANNED UNION WITH THE COLLEGE

(1) *University College London: research plans and priorities in Engineering and the Mathematical and Physical Sciences*

University College London, in the disposal of its seriously reduced 'general' funds for Engineering and the Mathematical and Physical Sciences, attaches its highest priority to the maintenance of *major research groups* of proven quality and achievement in areas that are nationally and internationally recognised as of great importance. In such science-based fields we find, indeed, that, taking quantity and quality of research achievement into account whether as judged internally or by external bodies awarding distinctions or funds, these major research groups continue to be outstandingly productive. A fundamental responsibility to maintain them is accepted by the College (at the expense, if necessary, of relatively more isolated, although still quite productive, research activity) even in the current period of seriously diminishing resources.

One measure of the success of this policy of preferentially applying 'general' funds (which are decreasing in real terms) to the maintenance of major research groups is provided by the response observed from external funding bodies. There has been a substantial continuing increase (again, in

real terms) in the external support for UCL's research in Engineering and the Mathematical and Physical Sciences until *in 1983-84 this external support reached a figure* (of £7.11M) *essentially matching total departmental expenditure* (of £7.35M) on teaching and research *from general funds.*

The policy of the *Engineering Faculty* (Cost Centres* 20, 21, 22, 23, and 27) is to concentrate its principal research and development work, in an intimate association with industrial firms, within particular areas of present or clearly foreseeable industrial importance that lie at the frontiers of theoretical understanding and current technological capability. Research students contribute greatly to all this activity. We note five major research groups in the UCL Faculty of Engineering which are nationally recognised as of special strength: the *Bioengineering Centre* (CC23) which has pioneered revolutionary new prosthetic and orthotic devices for the disabled; the unique group developing *Photogrammetric Measuring Techniques* (CC27) from the factory scale to remote sensing by satellite; the noted group concerned with applications of *Particle Technology* (CC20) to many fields (industrial crystallisation, fluidisation, combustion, gasification, slurries, solid catalysts, and the handling of biological cells in suspension); and also, within CC21, two major groups concerned with *Public Health Engineering* (especially, water filtration and treatment and the characterisation of filtering materials) and *Transport Studies* (especially, analysis of travel patterns, traffic engineering and control, transport safety). The College has made special efforts to sustain and further strengthen (from a combination of 'general' and external funds) all these major research groups.

In addition, the Faculty of Engineering contains three *very large and internationally distinguished dynamic interlinkings of research groups,* maintained with the College's strongest possible commitment and with massive external support. These are:

(i) the main research groups in Electronic Engineering (CC22), including *microwave technology* (from antennas and radars to ultrasonic and photoacoustic imaging), *microelectronics* (from innovative thin-film technology to integrated circuit design and chip evaluation) and *optoelectronics* (from optical sensors and optical signal processing to integrated optical circuits); all operating in an active partnership with industry;

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* Cost Centres, hereafter abbreviated as CC, are related to subject areas as in the code at the end of Section B.

(ii) the main research groups forming the UCL contribution to the London Centre for Marine Technology (CC21 and 23 and Interdisciplinary Grouping I), working with strong industrial support on fatigue, cracking, fracture, buckling and non-destructive evaluation of steel structures; alongside pioneering studies of seabed properties, fluid loading and dynamics of compliant structures; and

(iii) the main research groups constituting the engineering contribution to the UCL effort in Biotechnology (CC20 and Interdisciplinary Grouping II), concerned initially with fermentation, enzyme and protein technology using advanced pilot plant in a close relationship to industry; and, increasingly, with development of immobilised-cell technology aimed at building up a strong British biocatalyst industry. Every effort will be made to maintain, further develop and expand these outstanding Engineering groupings.

Within *Mathematical Sciences,* the Department of Computer Science (CC18) already contains a major research group on Computer Networks, Data Communications and Distributed Systems, with strong support from industrial firms, Government Departments and SERC. Long cherished plans to develop in the Department a second major group that would include existing research workers in Software Engineering can now be brought to fruition as a result of the recent award to UCL of increased UGC funds for Computer Science.

Major research groups are present, too, and can clearly be seen to be valuable and effective, in the non-laboratory-centred areas of Mathematical Sciences research at UCL; namely, in Mathematics and Statistical Science (CC17). There are well recognised groups in Analysis (including Differential Equations, Functional Analysis and Convexity); in Algebra (with special emphasis on Ring Theory); in Theoretical Fluid Dynamics and Continuum Mechanics (with associated inputs into the Marine Technology programme); and in Statistics, Applied Probability and Operational Research. The last group has been given a special orientation towards clinical medicine through the incorporation of CORU (the Clinical Operational Research Unit, funded by DHSS).

Within *Physical Sciences* we first note with satisfaction the effect of the University of London reorganisation of Geology which has led to the creation within UCL of a strong new Department of Geological Sciences (CC16) with 31 full-time academic staff (20 of whom are tenured) divided into three major research groups: on Rock and Mineral Mechanics, Physics and Chemistry; on Mechanisms of Crustal Deformation; and on

Biostratigraphy (including Micropalaeontology), Facies and Palaeo-environmental Analysis. The College is fully committed to the continued success of this important new research centre which combines the strengths of the former QMC and UCL Departments of Geology with new accessions of strength from other locations.

The Chemistry Department (CC14) includes four major research groups: a powerful group in Chemical Spectroscopy covering a wide range of techniques (ultraviolet, microwave, infrared, Raman, nuclear magnetic resonance and electron spin resonance), a closely associated and mathematically very sophisticated group in Theoretical and Solid-State Chemistry, a well established group in Mechanistic Organic and Inorganic Chemistry, and a vigorous Synthetic Chemistry group devoted to the preparation of new substances, inorganic and organic, with special reference to substances of biological interest. There is now a possibility of building upon other important current work in Biological Chemistry to create a fifth major research group in that field with powerful support from the Sandoz Institute (London) situated at the College and from another big pharmaceutical firm.

Finally, the College accepts a special responsibility to maintain the extremely powerful combination of nine interlinked major research groups that work within its Physics and Astronomy Department (CC15). This Department includes large numbers of staff whose salary costs were 'taken over' by UGC from SRC more than a decade ago in order to create permanently effective teams in ground-based and spaceborne astronomy and in atomic physics and high-energy physics, and this strategy can be seen to have 'paid off' in terms of the Department's continued research successes. The College recognises that the level of UGC-paid staff in the Department is necessarily influenced by the Department's responsibilities with respect to many large SERC-financed research programmes as well as by the requirement for many staff to spend long periods at big overseas facilities for astronomy, space or particle-physics research.

On the other hand, no such considerations have been allowed to bring about any exemption of Physics and Astronomy from the consequences of major cuts (about 15 per cent in real terms) in 'general' College resources between 1979-80 and 1983-84. This was a period when, in response to Britain's industrial needs, the 'general' resources of the Faculty of Engineering were relatively 'spared', being subjected only to a 5 per cent cut in real terms, but no such special protection would have been appropriate to a pure-science Department. Nevertheless, the real-terms cut in expenditure from 'general' funds for the very large Physics and Astronomy Department was deliberately restricted to the same 15 per cent

reduction as for the whole College (from £2.18M in 1979-80 at 1983-84 price levels to £1.85M in 1983-84) because of the exceptional distinction of the Department's work. Fortunately, independent assessments of that distinction led to external funds directly supporting that research increasing by 20 per cent in real terms during the same period (from £1.65M in 1979-80 at 1983-84 price levels to £1.99M in 1983-84); and this direct external support, now significantly greater than departmental expenditure from 'general' funds, is further supplemented by a massive indirect element of support, in the form of extensive agreed utilisation of big centrally funded facilities from observatories and satellites to particle accelerators.

In Astronomy, the fine group developing new instrumentation for ground-based telescopes has greatly enhanced, and is further improving, the capabilities of the Palomar Telescope, Anglo-Australian Telescope and UK Infrared Telescope. There are also four famous groups concerned with satellite instrumentation for Space Physics and spaceborne Astronomy: the infrared group played a notable part in the recent successes of IRAS (the Infrared Astronomical Satellite) and the ultraviolet group in the parallel successes of IUE (the International Ultraviolet Explorer); while a third group has been recognised as a pioneer developer of X-ray telescopes as carried on spacecraft from Copernicus to Exosat; and a fourth group, developing geophysical satellites and their instrumentation, has assiduously probed the earth's magnetosphere (especially, through designing and building one of the AMPTE satellites launched in 1984). These groups are now developing highly promising ideas for new instrumentation to be incorporated in ISO, Columbus, ROSAT and GIOTTO (the next major infrared, ultraviolet and X-ray satellite projects and the Halley's Comet mission) as well as planning important equipment for the Earth Remote Sensing satellite ERS-1 as part of an extensive general College involvement in Remote Sensing (Interdisciplinary Grouping III).

Within Physics, two specially distinguished teams are concerned with different aspects of Atomic Physics: an experimental group using novel techniques to probe the physics of positrons, and a theoretical group applying atomic-physics calculations in astrophysics (especially, to solve the fundamental radiative-transfer problems associated with analysing stellar interiors). An important Applied Physics research group pioneers fast Image Processing techniques. Lastly, the High Energy Particle Physics group, having been responsible for the basic idea of (i) the experiment, conducted at CERN by the group with many international collaborators, which led this year to the first emulsion record of an event involving 'beauty' particles and (ii) the current experiment conducted jointly with University of Michigan which has already set lower limits on the lifetime of

the proton, is now devoted especially to its heavy responsibilities within OPAL: one of the first four international experiments designed for the Large Electron Positron Collider (LEP) currently being built at CERN.

In all areas of the Physical Sciences, UCL and Birkbeck College benefit from the policy of resource-sharing for research (and teaching) throughout these areas which has been agreed between the College. This permits, not only the common use of important laboratory and workshop facilities, but also the filling of certain vacancies in a complementary fashion; allowing, for example, UCL's lack of expertise in (say) igneous petrology, analytical chemistry or condensed-matter physics to be compensated through developments at Birkbeck rather than through any specific deviation from the policy of preferential devotion of resources to major research groups.

(2) *University College London: Research Plans and Priorities in Language-based Studies and the Humanities (including the plans of the Institute of Archaeology in anticipation of its planned union with the College), as well as in the Social Studies, Architecture and Fine Art*

In the areas of *Language-based* Studies and the Humanities at UCL (CC34 and 35) we mainly see, not the 'research group' pattern which works so well for the sciences, but another pattern, highly effective for these areas of study, which, nevertheless, shares with the scientific pattern the characteristic that the vast majority of academic staff are most active in research which plays a vital part in feeding and inspiring their teaching programmes. The pattern we primarily see, in fact, is one of research pursued by a large, yet well-knit community of individual scholars working independently, yet in fruitful proximity, and subject to many creative interactions with other scholars forming part of the pattern; so that the pattern acts, indeed, as a network of mutually reinforcing research activities. The work is marvellously facilitated by the closeness of the British Museum, as well as of the British Library and of the other great Library resources of Bloomsbury.

Within *Modern and Medieval Studies,* UCL particularly derives benefits to its pattern of mutually reinforcing research activities from the College's parallel strengths in *history, literature and language* for all the regions covered which, furthermore, form a strongly interrelated group of regions; essentially, Western Europe in the medieval and renaissance periods and Western Europe and the Americas in the modern and contemporary periods. The history includes not only political, economic and social history, but also the history of art, of science, and of philosophical and political thought, alongside strong research commitments in medieval archaeology and also, within CC31 (b), in manuscript studies and archive

studies. The very wide language expertise is backed up by research strength at a distinguished level in general linguistics and phonetics. The literary studies interact strongly with historical research; but, in addition, are actively concerned with contemporary literary production; while contemporary philosophical research, too, is well represented alongside studies of the history of philosophy. One of the College's important priorities is to maintain its present high quality of research coverage of the history, literature and language, not only of Britain and the United States, but also of the Nordic countries, the Low Countries, Germany, France, Italy, the Iberian Peninsula and Latin America, and the Jewish diaspora.

In contrast to that network of mutually reinforcing activities by individual scholars which, at UCL, forms the main pattern of Modern and Medieval Studies in Humanities and Language-based Departments (a pattern that is very effective in these fields), we should note that a few particular parts of the area have in fact been found to lend themselves to the organisation of research groups. Some of these groups are very distinguished; for example, the interacting groups on the Survey of English Usage and *A Comprehensive Grammar of the English Language*; the pioneering Experimental Phonetics group with its many innovative projects including a leading Alvey project on Speech Input/Output Devices; the Wellcome Unit for the History of Medicine described under Interdisciplinary Grouping IV; and the comprehensive Bentham Project described under Interdisciplinary Grouping V. All of these, for very good reasons, have been able to attract significant external funding (though, admittedly, not on the same scale as in the sciences). The College policy is to encourage this, while, at the same time, taking a realistic view of the necessarily limited number of projects in these fields for which external funding can become available, and stressing continually the parallel importance of individual scholarly writings.

Within Bloomsbury, *Archaeology and Ancient World Studies* have reached exceptional levels of development by any standards through the well coordinated efforts of the Institute of Archaeology and of University College London. The coordination has included a rational partition of work among different areas of archaeological research (with Egyptian, Aegean and Viking Archaeology at the College complementing Prehistory, Western Asia, the Roman Provinces, Human Environment and Archaeological Conservation and Materials Science at the Institute); together with long-established high extents of cooperation between the Institute of Archaeology and many different UCL Departments which will be further intensified by the planned union between the Institute and the College.

An outstandingly strong case for recognition of the combined institution as a special centre of research excellence in Archaeology and Ancient

World Studies is documented at length under Interdisciplinary Grouping VI. This explains how large parts of the field depend critically upon scientific techniques, so that the cooperations embrace science-based as well as arts-based Departments, together with important Departments resting on a mixed arts-science base; and it indicates how several major research groups with substantial external funding play a vital part in the work alongside important contributions by individual scholars.

For example, research in the general area of the Emergence of Human Society derives great benefit from a cooperation exending across the very wide field represented by three Departments at the Institute (Prehistory, Human Environment, Conservation and Materials Science, including several major research groups) and the three main groups within the UCL Anthropology Department (Biological Anthropology, Material Culture, Social Anthropology), while receiving extensive support from the Geography Department and practical help from Chemistry, Geology, Photogrammetry, etc. This yields a most powerful combined approach.

Again, the combined study of the early literate societies of the Near East from the archaeological, linguistic, literary and historical points of view is founded on a close cooperation between the Institute's distinguished Western Asia Department and several UCL Departments. Here, the Egyptology Department, with its long traditions of archaeological research covering all stages from survey and excavation to conservation and publication, founded upon comprehensive linguistic and historical knowledge of Ancient Egypt, the parallel research strengths in ancient Mesopotamian languages and associated history in Hebrew and Ancient History, and the innovative Cypriot studies in Classical Archaeology all contribute alongside the more science-based Departments at the Institute and the College.

Classical Archaeology, once more, with its major research group devoted to Minoan and Mycenean investigations (paralleled by linguistic expertise in the Greek Department on early forerunners to Greek) provides a firm foundation to Bloomsbury's strengths in studies of the Classical World. Another major research group, in Papyrology, has been a most fruitful source of new Greek texts, which have been one important source of encouragement to highly active literary researches in the Departments of Greek and Latin. Now, Ancient History strengths in Roman republican studies are being strongly reinforced by a recently announced appointment to the Chair. An appointment to the vacant Chair of Greek is also regarded as of the highest importance and will certainly be made unless the present application for recognition as a centre of special research strength in Archaeology and the Ancient World is rejected. As

noted earlier, the Institute's strengths in Archaeology of the Roman Provinces are valuably complementary to the above range of studies in the College.

Without highlighting any more aspects of the case made under Interdisciplinary Grouping VI, the College and the Institute confine themselves to stating that they recognise a clear responsibility to maintain in Bloomsbury this leading centre of Archaeology and Ancient World Studies. With the UGC's encouragement, they will give exceedingly high priority to maintaining the centre's uniquely comprehensive coverage of this important field.

University College sees its *Social Studies* Departments as forming a key part of an extended family of five closely interacting Departments concerned with Legal, Economic, Environmental and Social Studies. These are the Departments of Laws, of Economics (formerly bearing the older name Political Economy), of Anthropology and of Geography, together with the Bartlett School of Architecture and Planning. Several factors, including the involvement of a strong laboratory-science element in the last three Departments, and the commitment of the first two to research involving the handling of big data bases, have led to this family of Departments (like those concerned with Archaeology) embracing several major research groups with substantial external funding.

The UCL Law School (CC30) has a number of well-known areas of research distinction; including, within International Law, the topics of Air and Space Law and of Maritime Law; in Comparative Law, the comprehensive study of the legal systems of the Socialist Countries; and in Public Law, the fields of Planning, Housing and Environmental Law. They include also important topics within Labour Law, Family Law and Competition Law as well as (following recent appointments) European Community Law and the history of Jurisprudence. Now the School has launched a major new research programme on Communications Law, another on the machinery of civil justice, and another (in cooperation with Economics) on the rapidly developing topic known as 'Law and Economics' with especial reference to the cost-effectiveness of legal procedures and remedies.

The Economics Department, as described under CC31 (c), has recently developed a major research group in applied microeconometrics concerned with the consequences of fiscal policy changes. This valuably complements existing microeconomics research concerned with various applications (for example, to policy on environmental and energy matters) of cost-benefit analysis; as well as substantial research work (some pursued in major intercollegiate collaborations) in general econometrics, in the Economics

of Public Policy and in Development Economics.

As noted earlier, and explained in detail under CC31 (a), the Anthropology Department contains three major research groups. The large Social Anthropology group, with its extensive field expertise in certain areas of Africa and Asia, is now being further strengthened through appointment to the vacant Chair of an outstanding anthropologist with complementary experience in the same continents. This group's research interacts increasingly with that of the Department's other two major groups: one concerned with primate and human evolution and associated aspects of Biological Anthropology; and one concerned with anthropological aspects of Material Culture in its contemporary and archaeological aspects. Now the Department is moving increasingly into nutritional anthropology and other areas of Human Ecology (in joint studies with the London School of Hygiene and Tropical Medicine) and into urban anthropology (in joint studies with the Geography Department, funded by the London Docklands Development Corporation).

The Geography Department at UCL is especially distinguished for its well integrated research strengths in human geography and physical geography. They include, on the one hand, extensive Urban Studies related to public-policy issues in a European context, alongside a separate but also major involvement in third-world urban and regional research; and, on the other hand, large-scale 'physical' investigations of hydrology and geomorphology. The two approaches are applied together in much of the Department's arid-lands work and other environmental research. More recently the Department formed a major research group which acts as the UCL centre for all new developments in the application of Remote Sensing to environmental problems and resource-mapping problems (Inter-disciplinary Group III).

All of the four Departments just discussed interact strongly with the others and with the *Bartlett School of Architecture and Planning* (CC26). The Bartlett is noted as an architectural school engaged in massive researches concerned with the processes of architectural design, but Architecture is only one of the fields of study covered. There are also major research groups within Environmental Design and Engineering (working both on the setting and on the meeting of environmental criteria in matters of lighting, acoustics, ventilation, etc.); within Building Economics and Management (working in collaboration with the construction industry and with Government on the control of building defects, training and site management, as well as on the functioning of the industry as a whole); and within Urban and Regional Planning (working on a wide variety of quantitative and spatial aspects of this field).

It is fundamental to the College's policy in Legal, Economic, Environmental and Social Studies that the research strength of all of the above closely interacting Departments must be maintained in a balanced fashion. The UGC Social Studies Sub-Committee recently commented that the College had so far succeeded in achieving this, especially through its policy for the filling of Chairs. With continued UGC encouragement in these areas, and the present rising level of external research support, the College believes that this success can be continued.

In a School of Architecture, of course, it is important that substantial numbers of staff engage in a type of original work that is totally different from research; namely the actual practice of architectural design. The policy of UCL and of the Bartlett School is to encourage a balanced combination of both types of original work within the School.

This statement of research plans and priorities is now concluded with a reference to the *Slade School of Fine Art* (CC36). The staff at the Slade School include a number of Britain's leading painters, alongside some very distinguished printmakers and sculptors. Many recent exhibitions in which their work has prominently featured have continued to bring them most favourable and enthusiastic notice. The Slade School was the first studio school of Fine Art established in a University, and its present-day staff value their close relationships with UCL staff in other academic disciplines. It is however, fundamental to the Slade School's policy (and to the College's policy for the Slade) that its plans and priorities do not contain any provision for research in the narrow sense, although they do most specifically require that the staff should all be continuously and actively engaged in original creative work at a high level, as is the case at present. University College London respectfully requests that the Slade School should be funded appropriately in the light of the fact that the totality of its staff can be recognised as a centre of special excellence in original artistic activity.

Code for 'Cost Centres' mentioned in Section B

(14) *Chemistry;* (15) *Physics and Astronomy;* (16) *Geological Sciences;* (17) *Mathematics* with *Statistical Science;* (18) *Computer Science;* (20) *Chemical and Biochemical Engineering;* (21) *Civil and Municipal Engineering;* (22) *Electronic and Electrical Engineering;* (23) *Mechanical Engineering;* (26) *Architecture and Planning;* (27) *Photogrammetry and Surveying;* (29) *Geography; (30) Laws;* (31a) *Anthropology;* (31b) *Library, Archive and Information Studies;* (31c) *Economics;* (34a) *English;* (34b) *Phonetics and Linguistics;* (34c) *Ancient Languages* (Latin, Greek, Hebrew); (34d) *Romance Languages and Literature* (French, Italian, Spanish); (34e) *Northern European Languages and Literatures* (Dutch, German, Scandinavian Studies); (35a) *History* and *Philosophy* (including History of Art); (35b) *Archaeology* (including Egyptology); (36) *Fine Arts.*

INTERDISCIPLINARY GROUPINGS

I. Marine Technology

II. Biotechnology

III. Remote Sensing

IV. History of Science and Medicine

V. Bentham Project

VI. Archaeology and Ancient World Studies

University of London: Academic Initiatives

The College was again invited to submit applications to the University for supplementary grant to fund academic initiatives from 1984-85 onwards and after wide consultation 11 proposals, including one UCL-based application from the Joint School of Medicine, were submitted. Three of these applications were accepted by the Court of the University, these were as follows:

(i) £21,000 for the reinforcement of teaching at undergraduate and postgraduate level in the Slade School of Fine Art in painting and sculpture;

(ii) £16,000 for the appointment of a Lecturer in Engineering Geophysics in the Department of Geological Sciences;

(iii) £14,000 for the development of non-destructive evaluation course units for undergraduates in the Department of Mechanical Engineering.

New Blood Appointments and New Appointments in Information Technology

In March the University Grants Committee announced the outcome of the applications submitted in the last round of the New Blood and new Information Technology posts scheme and the College was outstandingly successful in gaining a total of ten New Blood and two Information Technology posts [awarded to the Department of Computer Science and the Department of Electronic and Electrical Engineering]. The New Blood awards were as follows:

Department	*Body sponsoring post (with UGC)*	*Subject-Area*
Physics and Astronomy	SERC	Theoretical Atomic Physics
Pharmacology	MRC	Immunopharmacology
Mathematics	SERC	Algebra
Zoology and Comparative Anatomy	MRC	Molecular Biology of Neural Cells

Department	*Body sponsoring post (with UGC)*	*Subject-Area*
Civil and Municipal Engineering	SERC	Transport Studies
Chemistry	SERC	Synthetic Organic Chemistry
Botany and Microbiology	NERC	Bacterial Ecology
Philosophy	BA	History of Philosophy
Phonetics and Linguistics	BA	Cognitive Linguistics
Anthropology (with the London School of Hygiene and Tropical Medicine)	ESRC	Nutritional Anthropology

(SERC: Science and Engineering Research Council; MRC: Medical Research Council; NERC: Natural Environment Research Council; BA: British Academy; ESRC: Economic and Social Research Council.)

Developments towards the Formation of the new single School of Medicine

Considerable progress has been made during the past year towards the formation by August 1987 of a single School of Medicine within UCL comprising the present UCL Faculties of Medical and Clinical Sciences, The Middlesex Hospital Medical School, and the Institutes of Laryngology and Otology, Orthopaedics, and Urology. A name for the single School has now been agreed: the University College and Middlesex School of Medicine of University College London.

During the year the Unification Sub-Committee under the Chairmanship of the Vice-Provost (Medical) of UCL, Professor D. V. I. Fairweather, has produced a Unification Document covering all the major administrative aspects of the impending unification (legal, constitutional, finance, buildings, student matters, personnel, administrative, and academic and general services). The Unification Document is now being considered by the Institutions concerned and, subject to their approval, the necessary legal steps will be put in hand to effect the establishment of the single School of Medicine by Act of Parliament.

The second major matter with which the Unification Sub-Committee has been concerned during the past year has been the future siting of Departments within the single School. The present plans envisage a

concentration of Pre-clinical Sciences on the UCL site of the campus, with Clinical Sciences on both the UCL and The MHMS sites, but with a concentration of the Pathology disciplines on The MHMS site. The future siting of the Postgraduate Institutes will depend largely on the future siting of their associated Postgraduate Hospitals. Detailed plans and costings for the UCL/MHMS schemes are now being prepared and, if approved within the two Institutions, will be forwarded to the University of London and the University Grants Committee with a request for financial support towards the total cost involved.

Joint School of Medicine: Department of Medicine

The Middlesex Hospital Medical School and the College agreed that from 1 January 1985 a single Academic Department of Medicine be established under the Headship of Professor S. J. G. Semple, Head of the Department of Medicine at The MHMS.

The Dental School: Collaboration with other Institutions

The Report of the Working Party of Dental Deans stated that with the number of students attending University of London Schools, it was unlikely to be possible to develop all the dental specialisms in each Dental School without co-operative schemes. A broad grouping of three Schools north and three Schools south of the Thames had been advocated within which academic resources could be pooled. Within the North Thames Dental Group, the London Hospital Medical College (LHMC), the Institute of Dental Surgery (IDS) and the UCL Dental School were asked urgently to examine the practicability of establishing combined academic departments in those disciplines not concerned with immediate supervision of dental treatment undertaken by students. In consequence of this recommendation the College has agreed to a number of collaborative schemes. The MSc in Dental Public Health, formerly offered by the LHMC, has been offered jointly at the LHMC and UCL from October 1984. A Joint Department of Community Dental Health and Dental Practice has been established between the LHMC and UCL under the Headship of Professor A. Sheiham whose Chair of Community Dental Health and Dental Practice has been made jointly tenable at the two Schools. A Joint Department of Materials Science in Dentistry has also been instituted with the LHMC under the Headship of Professor M. Braden whose Chair of Materials Science in Dentistry has also been made jointly tenable. With the IDS a Joint Department of Oral and Maxillo-Facial Surgery has been established.

These joint dental departments have the status of sub-departments within the UCL Dental School.

Restructuring

During the course of the year, restructuring discussions took place between the College and Westfield College. A number of options for Westfield College were under consideration at the time, the main proposals being a close association either with King's College London or with University College London. The latter option was strongly supported by Westfield College and by UCL, particularly the Faculty of Arts which would have been primarily involved. It was appreciated that there would be gains for both Schools, particularly in student accommodation, with which Westfield College is well endowed. In the event, after much discussion within the University of London, the Joint Planning Committee decided that King's College London and Westfield College would be urged to collaborate, with a view to a merging of the two Colleges. A decision was taken, however, to offer University College London 50 student places in Westfield College accommodation. There will also be scope for additional links with Westfield College in furthering associations that are already in force, such as that between the two History of Art Departments. All the discussions with Westfield College were very congenial and the talks were conducted in a spirit of friendliness and good sense. We would like to thank Westfield for their co-operation in this proposed merger.

Towards the end of the academic year talks between the College and the Institute of Archaeology took place with a view to the two institutions forming a closer association. The Provost was involved in detailed talks with the Director of the Institute of Archaeology, Professor J. D. Evans, following which plans are in hand for the development of these proposed ideas. Our links with the Institute of Archaeology are already strong and the College welcomes this new venture.

Developments in Engineering in the University of London

The Joint Planning Committee of the University set up a Working Party under the chairmanship of Sir Alan Muir Wood to advise the Court and the Senate on Engineering provision within the University in the light of the Subject Area Review Committee's report of January 1982 and recent developments. The Working Party concluded, *inter alia,* that the Civil Engineering Departments at Queen Mary College and King's College were too small and shold be merged on a single site. With regard to

Mechanical Engineering, the Working Party recommended that the Departments of Mechanical Engineering at UCL and King's College should enter into a closer collaboration. Since the Departments have different areas of expertise, this recommendation has been welcomed by the College as likely to benefit students by giving them access to the KCL facilities.

Transfer of Mathematics Staff from Bedford College

The recommendations of the University's Joint Planning Committee Working Party on Mathematics and Statistics included proposals for the strengthening of Algebra at UCL and this was to be achieved by the transfer of three ring theorists from Bedford College. In implementation of this proposal Professor P. M. Cohn, Professor of Mathematics, and two lecturers, Dr W. J. Dicks and Dr W. Stephenson, were transferred to UCL as from 1 August 1984.

Rationalisation of Biophysics

Following the resignation of Professor R. Miledi, the Royal Society Foulerton Research Professor and Head of the Department of Biophysics, it was agreed that staff of the Department of Biophysics be transferred to the Joint Department of Physiology and that the Department of Biophysics cease to exist as from 30 September 1984.

CVCP Steering Committee for Efficiency Studies

During the course of 1984-85 the College was one of six university institutions within the United Kingdom which were the subject of an Efficiency Study under a Steering Committee of the Committee of Vice-Chancellors and Principals under the chairmanship of Sir Alex Jarratt, Chairman of Reed International and Chancellor of the University of Birmingham.

In all six university institutions the area of General Management was to be studied. In addition, every institution had a second field of study which at UCL was financial management, and this was also the chosen area of study for Edinburgh University. Deloitte, Haskins and Sells were appointed as Management Consultants and their team worked in close conjunction with the College Study Officer, Mr A. C. Howe, the College Internal Auditor. Mr Howe had the difficult task of supervising this wide-ranging study and he is to be congratulated on producing an admirably clear

result in a combined study written by him and the College Management Consultants. Mr Howe was backed by a small Study Team, comprising Dr D. G. Davis, Department of Physics and Astronomy, Mr A. D. E. Lewis, Department of Laws, Mr E. W. Bridger, Assistant Secretary (Personnel), Mr M. H. Butcher, Deputy Registrar, Mr J. R. Clements, Deputy Finance Officer, and Mr R. W. Marlow, Assistant Bursar.

The Study Officer and his team investigated widely in the College. Discussions were held with the Chairman and members of Council, the Chairman and members of the Finance Committee, and the Chairman of numerous other key College committees. At the same time, interviews and dialogues were held with the Provost, the Secretary of the College and the Heads of the Administrative Divisions as well as with the three Vice-Provosts, the Deans of the seven Faculties and numerous Heads of academic departments and other members of the College. The Study investigated a large number of College activities and went to great lengths to ensure that a balanced cross-section was presented. On the financial side, care was taken to investigate areas that reflected a variety of the College's wide-ranging financial operations.

The Study report found the general management of the College to be sound and its financial operations well conducted. Emphasis was placed on the close co-operation between all areas of the College and on the harmonious relationships between the administrative and academic staffs. A number of positive recommendations were made in the report and some of these have been implemented already. Further consideration is to be given to other recommendations and a review of the action to be taken will be carried out towards the end of 1985-86. The Steering Committee's report broadly concurred with the recommendations made in the University College London Report. Press accounts of the Committee's report did not reflect accurately the broad assessment made by the Steering Committee, for the report was, in general, a sound one for the universities in that the general management and the special areas commented on in the Study gained approval. Those areas that require attention are being properly followed up but it would be wrong to assume that these points noted reflect unfavourably on the universities; they give rise to opportunities for better efficiency. The College considers itself fortunate to have been chosen for this Efficiency Study and has gained in the process.

University Grants Committee: A Strategy for Higher Education into the 1990s

The College received copies of the UGC's advice to the Secretary of State for Education and Science, *A Strategy for Higher Education into the 1990s,*

based upon the responses received from universities to its questionnaire, and in general had much sympathy with its findings and recommendations. It was noted with regret that the Chairman of the UGC, Sir Peter Swinnerton-Dyer, took the view that the UGC's advice had not been accepted by the Secretary of State.

In the light of Section 5 — Research of the UGC's Report, the College anticipated a request from the UGC for a statement of its research policy and strategies and Deans of Faculties, in consultation with Heads of Departments, began preparation of research statements. The UGC then formally notified universities that it intended to embark upon a review of the present baseline distribution of resources and an examination of universities' plans for the rest of the decade and to consider changes in its approach to the distribution of resources. This review was expected to lead, in particular, to the selective funding of research among universities within an overall reduction of resources.

University Grants Committee: Planning for the late 1980s

In May 1985 the UGC issued its circular letter *Planning for the late 1980s* setting out the strategic framework within which universities were to formulate their plans, describing the organisation and nature of the review, and specifying the information which the Committee needed. The letter warned that '*all* universities must prepare for support from public funds (i.e. recurrent grant and home tuition fees) to decline in real terms year by year: universities which suffer less than the average can only do so at the expense of other universities'. For the purpose of its review of the distribution of resources the UGC had decided on a working hypothesis of an average annual decline in the recurrent grant for each institution of 2 per cent in real terms. The Committee confirmed its intention to be more selective in its support for research in order to maintain the quality of university research and the strength of the dual support system as far as possible within the resources available. Resources will be redistributed between institutions, and institutions will be encouraged to redistribute resources towards work of special strength or promise. The Committee has already agreed not to transfer research resources between main subject-areas; arts, science and medicine.

In accordance with the UGC's request for information the College began the preparation of a statement of its overall objectives for the planning period, a research statement including profiles of research in the UGC's designated subject-area, forecasts of student numbers and financial forecasts. The complete submission is to be made by the end of November 1985.

Bloomsbury Centre for Magnetic Resonance Spectroscopy in Medicine

With the use of a TMR 32-200 spectrometer installed in the Rayne Institute the Departments of Medicine, Medical Physics, Neonatal Paediatrics and Physiology have been carrying out a multidisciplinary research programme on muscle and cerebral metabolism in new-born infants and animals, and the research team have been recognised as international leaders in this field. The Department of Health and Social Security and the Wellcome Trust have indicated that there would be support for the extension of the neonatal work, and there is close collaboration with Oxford Research Systems which pioneered the design of these spectrometers, as well as links with the postgraduate Institutes of Child Health and Neurology. In order to promote the development of the clinical applications of nuclear magnetic resonance spectroscopy and to capitalise on the resources available, the College has agreed to establish the Bloomsbury Centre for Magnetic Resonance Spectroscopy in Medicine under the management of the Department of Medical Physics. Proposals for future development include the capability to carry out investigations on children up to five years of age and to extend the cerebral function work to the study of the ageing brain.

Department of Psychology: Psychoanalysis Unit

Professor J. Sandler, Sigmund Freud Professor of Psychoanalysis at the Hebrew University of Jerusalem, was appointed to the newly-established Freud Memorial Chair of Psychoanalysis tenable at UCL and funded by a generous endowment by the Hon. David Astor. The College has agreed to set up a Psychoanalysis Unit, under Professor Sandler's direction, to provide a centre for advanced research in psychoanalysis.

University Grants Committee: Social Studies Sub-Committee Visitation

The UGC Social Studies Sub-Committee visited the College on 6 December 1984 to review the work of the Departments of Anthropology, Geography, History and Philosophy of Science, Laws, Political Economy, Psychology, the Bartlett School of Architecture and Planning, and the Economic History section of the Department of History. The Sub-Committee held meetings with Heads of Department, professorial staff, student representatives, non-professorial staff and subject-specialist library staff, as well as visiting the Departments. Work in the social studies area was highly commended by the Sub-Committee, and the College was characterised as a centre of excellence.

Visit of Members of Parliament on 4 December 1984

The following Members of Parliament visited the College on 4 December 1984 with a view to increasing parliamentary awareness of the varied work of the College:

Sir Gerard Vaughan, MP (Con. Reading East); Mr P. N. E. Bruinvels, MP (Con. Leicester East); Mr R. Hicks, MP (Con. Cornwall South East); Mr N. G. Thorne, OBE, TD, MP (Con. Ilford South); The Rt Hon. P. K. Archer, PC, QC, MP (Lab. Warley West); Mr E. P. Deakins, MP (Lab. Walthamstow); Dr J. Marek, MP (Lab. Wrexham); Dr Oonagh McDonald, MP (Lab. Thurrock).

The MPs visited the Departments of Computer Science, Physics and Astronomy, Chemical and Biochemical Engineering, Mechanical Engineering, Haematology and Paediatrics. A luncheon in the Old Refectory concluded the tour of College.

150th Anniversary Appeal Committee — Luncheon and Visit to the College

A luncheon followed by a tour of the extensions was arranged on 20 May 1985 for the 150th Anniversary Appeal Committee and others who had assisted in ensuring that success was achieved in reaching the financial target for the Appeal Fund. Among those who came to the College that day were Lord Annan, Professor Sir Randolph Quirk, Sir Bernard Waley-Cohen, Sir Francis Sandilands, Professor Sir Andrew Huxley, Sir Henry Phillips, Dr Maxine Merrington, Mr C. Mattingly and Mr H. C. H. Graves.

We wish to thank once again all members of the Appeal Committee and in particular Professor D. W. James, Appeal Director, Miss Joan Ingram, Appeal Secretary, and Miss Lella Raymond for all they have done to ensure such a happy outcome to the operation.

New Courses

Following the transfer of the Department of Dutch from Bedford College, teaching commenced in October 1984 for the BA degrees in Dutch, Dutch and German, Dutch and Italian, and Dutch and Scandinavian Studies. Three BA Degrees (Linguistics, Hebrew, Jewish History) transferred to the Course Unit system. In the Faculty of Engineering a new four-year BEng Degree in the field of Electronic and Electrical Engineering was

introduced. To meet the needs of archivists from Commonwealth and Third World Countries, an MA Degree in Overseas Archive Studies was instituted. The College also resumed teaching for the MA Degree in English Language — Modern. In Economics the MSc Economics Degree — Branch 2 was replaced by the MSc Degree in Economics of Public Policy in Developed and Developing Countries (run jointly with SOAS).

Student Numbers

On 31 December 1984 there were 6,912 students registered at the College. Of these, 5,007 were full-time undergraduates, 1,560 of whom were newly-admitted, and 63 part-time undergraduates.

The *total* postgraduate population at the same date stood at 1,842. 1,290 of these were studying on a full-time basis and 552 were part-time. 44 per cent of the full-time postgraduates and 64 per cent of the part-time postgraduate students were undertaking research. The total overseas student population at 31 December 1984 was 1,147. Of this population 987 were full-time students, 422 of whom came from 31 Commonwealth nations and 119 from EEC countries. There were 160 part-time overseas students, 119 of these being postgraduates.

The numbers of full-time students who paid the overseas higher rate of fee was 899 at 31 December 1984, 14.3 per cent of the total College full-time student population. This figure represents an increase of 1 per cent on the proportion of the total at 31 December 1983.

Of the full-time undergraduate students in attendance at the College, 613 were housed in College Halls of Residence, 981 in College student houses and 303 in University Halls of Residence.

23 postgraduates were housed in College Halls, 86 in College student houses and 84 in University Halls of Residence.

Liaison with Schools

(a) Schools Conference

On 17 and 18 April the Schools Conference was held, for the nineteenth year. Head teachers and their representatives from a wide cross-section of schools and sixth form colleges throughout the country were welcomed to the College. After an introductory speech from the Provost the visitors were entertained by talks from Emeritus Professor Patricia Clarke and Professor J. E. C. T. White.

A substantial part of the programme was taken up with visits by the teachers to departments, where they were able to discuss details of

admission to individual courses with relevant College staff. Our guests stayed and dined in Ramsay Hall where they experienced at first-hand the high quality of the College's student accommodation. As in previous years a feature of the conference which attracted much favourable comment from the teachers was the evident willingness of so many College staff to take part in the proceedings.

(b) Meeting with Heads' Representatives

The annual meeting of the Provost and Tutors with representatives of the Secondary Heads Association, the Headmasters' Conference and the Girls' Schools Association took place in December. Ideas and opinions were most usefully exchanged about undergraduate admissions proceedures and accommodation policy in the College and the proposed AS level examinations, to be introduced into Sixth Form teaching after 1987.

Assembly of Faculties

The 1985 Assembly of Faculties, which was held on 19 June, was well supported by final-year undergraduates, parents and staff of the College.

Following the Provost's review of University College activities during the year, the Assembly was addressed by Sir Andrew Huxley, FRS, who talked about the various aspects of his time at the College.

Following the vote of thanks by Professor M. W. Swales, refreshments and wine were taken within the College buildings, where a variety of exhibitions and displays were viewed with great interest. Many of those present viewed the almost completed extensions to the North and South Gower Street frontage and visited other parts of the College which were open to visitors. Proceedings were concluded by a concert in the Haldane Room by the University College and University College Hospital Chamber Music Group.

Computer Centre

The principal new venture for the Computer Centre in the past session has been the involvement in the installation of word processing equipment in a large number of departments, as part of the College's policy of supplying such facilities. Training courses have been devised, including video-taped material, and there has been work with departments in the Faculty of Arts to design new character sets for special needs. A welcome new facility for users of the main computing service has been the completion of a well-

equipped terminal teaching room, funded by the Sandoz Institute as part of the refurbishment of the Kathleen Lonsdale Building.

The Library

The main preoccupation of the Library Committee and the Library staff this session has been the establishment of the D. M. S. Watson Library as the Bloomsbury Science Library. This project has been a fine example of co-operation between the College and the University, leading to a more effective use of existing resources and producing benefits for members of the College and for scientists throughout the University. It is a key feature in the development of increased co-operation between the libraries in Bloomsbury. The idea that the College's scientific collections should be housed in the D. M. S. Watson building is not a new one, having been considered when the College acquired the building in 1967, but while there was hope of a new building, the idea was not worth pursuing. In today's situation, however, it is vital that the Library makes the most effective use of all available space, and detailed investigation of the size of the collection and growth rates suggested an arrangement of the humanities collections in the Main Library and the scientific and pre-clinical medical collections in the D. M. S. Watson Library. The arrangement proposed also allows for the best collocation of related collections, enabling the reader to pass easily from one subject to another. By happy coincidence, the best arrangement for University College members happened to fit in well with the proposals for the rationalisation of Library resources in Bloomsbury. The detailed planning and implementation of this project went on throughout the session, culminating in the move of almost one third of a million books in the summer vacation.

The other feature of the session which stands out from the day-to-day service is the retirement of four senior members of the Library staff. The past three years have been a watershed in the staffing of the Library, with a change not only of Librarian and Deputy Librarian but also of one third of the Assistant Librarians. Reference is made elsewhere in this Annual Report to the qualities of the individuals who retired this session, but institutionally such a watershed brings a sense of loss of continuity with the past and yet also the feeling of beginning a new era.

The Administration

1984-85 was another full and busy year for the Administration, and the proposed establishment of the new School of Medicine has continued to

generate a great deal of work. The report of the Unification Sub-Committee of the Joint School Co-ordinating Committee is a testimony to that work. Miss Marilyn J. Gallyer, as the Administrative Secretary of the Faculty of Clinical Sciences, has had a particularly heavy load during this academic year and she is to be congratulated on her outstanding work as Secretary of the Unification Sub-Committee. [She leaves the College to be Deputy Secretary of the Imperial Cancer Research Fund after twelve years of hard and successful work within the College, the past five years in the Faculty of Clinical Sciences.]

The workload of all four divisions of the Administration has expanded. The Bursar and his staff have been very committed with the completion of the Gower Street extension and the landscaping of the quadrangle as well as a wide range of work both centrally and in connection with many of the College's sixty academic departments. The Finance Secretary and Accountant and his Division have been particularly busy in connection with the Jarratt Committee Financial Study and with continuing financial developments within the College, both in the University field and in many associated outside ventures, generating income for the College and ensuring that our many activities can continue, albeit with reduced resources from the University Grants Committee. The Registrar's Division have had a full load with which to contend, with increased numbers of academic courses and students. The General Division has continued to expand a number of its areas, including those of Personnel, Catering, Security Services and Safety, and it has also been much affected by both restructuring and the various changes necessary as a result of the Gower Street extensions.

One of the major difficulties faced by the Administration has been that of taking on many new areas of work at a time of considerable reduction in numbers of staff. It is a tribute to the loyal and conscientious work of the administrative staff that so much has been achieved. Efforts are being made wherever possible to ensure that computer-aided operations are introduced, and all four administrative Divisions made progress in this area.

Mr Ian McKellar, the College Careers Officer, left after 13 years here and he too will be missed by us all. He is being succeeded by Mr M. Tiley. Others who have left included Mr J. Parker, Domestic Superintendent, after 12 years, and Miss Elizabeth Ridley, Personnel Officer, after 30 years' service. Sadley, during the course of the year Miss Muriel Hopley, the College Publications Officer, died. She contributed much to the College during her years and she has been greatly missed.

The Court Block Recurrent Grant from the UGC to the College for 1984-85 was announced in May 1984. The total received from the Court in the year was £31,842,923. Despite earlier Government assurances to the contrary, it represented a further reduction in real terms on the committed level for the previous year and continued the attrition since 1980. Furthermore, the UGC has given a clear indication that the University system as a whole can expect further resource reductions for the remainder of the decade on its recurrent UGC grants. On the other hand, the College continued to attract non-UGC funds for research purposes well in excess of the national average. It is hoped that this peer judgement of the quality of research activity in the College will be taken into account by the UGC in its future allocations (via the Court) in recognition of the 'dual funding' concept.

The separate UGC grant to the College for scientific equipment (similarly via the Court) was also announced in May 1984 and amounted to £2,159,300. This represented an increase of 16.8 per cent over the level for the previous year, compared with an overall increase for London of 10.2 per cent and only 5 per cent nationally. This excellent position was known to be attributable to direct recognition by the Court of the high level of research activity in the College and augured well for the future extension of this approach to recurrent grant by the UGC, which should go some way toward compensating for the negative aspects of somewhat higher than average student unit costs in some College disciplines.

Against this background, the College's planned approach to these financial challenges (which had received favourable comment in the Jarratt efficiency study carried out at the College) would continue to be severely tested.

Further inroads were made into the College's savings targets in all areas mainly by the loss of further posts. Since 1980, no less than 312 UGC-funded posts have been lost (approximately half by natural wastage and half through the operation of the Premature Retirement Compensation Scheme). This represents 20 per cent of the 1980 staffing levels and the process is by no means complete.

On the positive side, one particular financial landmark was the achievement of the level of overseas students in the College which had existed in 1979 (before the Government had compelled universities to impose the enormously enhanced fee levels). On average overseas fees were now ten times as high as those for home students.

Economies in the costs of running and maintaining the College's premises have kept this expenditure level steady in real terms despite an

increase in the College's estate with the acquisition of Gordon House and 66-72 Gower Street.

A substantial capital investment of £200,000 over two years in the College Refectories has paid dividends in terms of significantly increased customer numbers and improved financial returns. The Academic Services Unit, set up in 1979 to increase the extent of industrial and commercial collaboration, turned in its best figures to date with a turnover of £2,359,183 and profits of £354,750 shared between participating departments and the College's general reserves.

The final out-turn for the year was a deficit of £1,430,145 which increased the accumulated deficit to £4,863,812. It is salutary to reflect that this figure would have been some £24 million but for the savings achieved since 1980. The accumulated deficit continues to be financed internally from the College's Revenue Reserves and Provisions, which stood at £9,350,829 at the year end.

The College's Finance Committee confirmed its resolve to achieve an annual break-even position by 1987, which coincides with the formation of the new Single School of Medicine following the proposed merger with The Middlesex Hospital Medical School and the three Postgraduate Medical Institutes. To this end, a renewed savings drive was launched based on the two objectives of some further voluntary (College-funded) premature retirements and 200 additional overseas students by 1986-87.

Sites and Buildings

This year has seen the completion of two major projects in the College Rectangle — the completion of the Gower Street Entrance and of the top floors of the Kathleen Lonsdale Building. The effect on the College Rectangle has been dramatic.

The partial reconstruction and complete conversion of the top two floors of the Kathleen Lonsdale Building were completed early this year and the Sandoz Institute for Medical Research has moved into its accommodation. The front elevation facing on to Gower Place has been cleaned and restored. The building now boasts a handsome Mansard roof, much more appropriate to its classical proportions than the austerity structure put up just after the last war.

The extensions to the two wings flanking the Gower Street Entrance are complete and the two familiar Lodges have been rebuilt to the original design. In addition to the extra space provided for the academic departments in the two wings, visitors to the College can now be dealt with in an elegant new Reception Room, and College staff are provided with

banking facilities. The design of the Entrance by the Casson Conder Partnership has aroused considerable interest and has already been well illustrated in the architectural press.

The associated landscaping of the Quadrangle is also finished. All hard pavings have been repaired or replaced following the general lines laid down by the original architect, William Wilkins. The works also include a ramp to enable wheelchair users to enter the North Cloisters. The final task of laying new turf over the site of the two former prefabricated huts is almost complete. But it will be some years before the two new lime trees are big enough to make their full impact as part of the overall design.

The debate on the number of car parking spaces to be provided was settled by the beginning of the present session. The decision was to provide parking north and south of the Portico keeping the main axis of the Quadrangle free of cars. About thirty places will be provided. The improved Quadrangle will be restored as a College amenity for next session.

These two major projects overshadow a number of other useful improvements to College buildings. Work has been completed on two conversion projects at the Whittington Hospital to provide new laboratories for the Department of Endocrinology and Diabetes and on a new Library for the joint use of Clinical students and Hospital staff.

The College has acquired from the University two more buildings. One at 66-72 Gower Street is being refurbished to house the Departments of Community Medicine, Community Dental Health and Dental Practice, parts of the Department of Electronic and Electrical Engineering, a group from the Department of Mechanical Engineering and the Library Bindery. The other building at 29 Gordon Street, together with some internal alterations in the adjacent Christopher Ingold Laboratories, will provide space for the Birkbeck College Department of Chemistry to share the facilities of the University College London's Department of Chemistry. This building will also provide space for UCL's Departments of Latin and Greek.

At long last the many problems holding up the final completion of Ramsay Hall in Maple Street have been resolved. Work on site will start in September and the contract should be complete in April 1987.

Other projects in hand include the second phase of conversion work for Medical Microbiology, conversion of accommodation in the Kathleen Lonsdale Building for Geological Sciences and in Chenies Mews for Haematology. Phase II of the scheme of improvements to the Lower Refectory will be ready for use at the start of the session. The proposal to add an eleventh floor to the New Engineering Building for the Department

of Electronic and Electrical Engineering will start on site in the New Year.

Altogether this was a vintage year for building works at University College London.

Friends of University College London

Undoubtedly the most important gift to the College this year has been the Friends Room in the newly finished South Wing extension. This is now in use as a reception area for the College. It is the Association's corporate donation to the 150th Anniversary Appeal and highlights the practical approach which characterises the Friends' work within College.

Requests for grants from the Friends have continued to increase and during this year awards totalling £11,375 have been made together with a loan of £3,150 and a reallocation of £1,200. The College received a grant covering the cost of a further showcase for the permanent Exhibition (£2,555) and the Department of Classical Archaeology received £400 towards the cost of a case for the Cast Museum. £3,000 was awarded to the Chamber Music Club towards the cost of a harpsichord and a grant of £3,175 was made to the Gliding Club together with the loan mentioned above to buy a second-hand glider. The College Opera, the Union Football Club, the DramSoc and the Old Students' Association were among others who were successful in their applications. £1,200 was reallocated in order that the three main lecture theatres may be fitted with an induction loop system to aid the hard of hearing.

The Friends continue to provide facilities which could not otherwise be afforded and which contribute greatly to the pleasant atmosphere within College. They hope, therefore, that members and former members of the College will do all in their power to ensure that both the level of membership of the Friends and of subscriptions and donations to them are increased.

Old Students' Association

A very successful Buffet Supper and Disco was held on 9 November, to which final-year students were invited. The Special Dinner guest in March was Sir Hugh Casson, and a private visit to Sutton Place, home of the late J. Paul Getty, was arranged for June. Other functions this year were the usual joint dinner with the Friends of University College and a group booking for the College Opera.

The following public lectures were among those arranged by the College during the session: Commonwealth Fund Lecture in American History by Professor Bertram Wyatt-Brown (University of Florida) on 'Elkin's "Sambo" Re-Analysed: Slave Psychology in the Old South'; Durning-Lawrence Lectures in the History of Art by Alex Potts (Camberwell School of Arts and Crafts) on 'Spectacle and Knowledge. Ways of Visualising Society and the Natural World in the Eighteenth Century and Romantic Period' (six lectures); Freud Memorial Lectures in Psychoanalysis by (i) Professor Joseph Sandler (Freud Memorial Professor of Psychoanalysis) on 'The Id — or the Child Within?' (Inaugural Lecture), (ii) Dr Harald Leupold-Löwenthal (Sigmund Freud Society, Vienna) on 'The Early Psychoanalytic Group in Vienna', (iii) Dr Elizabeth Spillius (British Psycho-Analytical Society) on 'The Kleinian Concept of Phantasy', (iv) Dr Nina Coltart (British Psycho-Analytical Society) on 'Slouching Towards Bethlehem: Thinking the Unthinkable in Psychoanalysis', (v) Professor Joseph Sandler on 'Projection, Identification and Projective Identification as Mechanisms of the Mind', (vi) Dr Herbert A. Rosenfeld (British Psycho-Analytical Society) on 'The "Impasse" in Psychoanalysis and its Relation to Problems of Transference and Countertransference', (vii) Dr John H. Padel (British Psycho-Analytical Society) on 'Was Shakespeare Happy With His Patron? One Psychoanalytic Interpretation of the Relationship', (viii) Dr Dennis Duncan (British Psycho-Analytical Society) on 'What Ever Happened to Sexuality in Psychoanalysis?'; Jevons Memorial Fund Lecture by Professor Frank Hahn (University of Cambridge) on 'In Praise of Economic Theory'; S. V. Keeling Memorial Lecture in Greek Philosophy by Professor Donald Davidson (University of California, Berkeley) on 'Plato's Philosopher'; Neale Lecture in English History by Emeritus Professor Rodney H. Hilton (formerly of Birmingham University) on 'The Medieval Market Town: the Role of Simple Commodity Production'; Lord Northcliffe Lectures in Literature by The Rt Hon. Lord Annan on 'The Deviants of the Inter-War Years' (three lectures); Shearman Memorial Lectures by Professor Burton Dreben (Harvard University) on 'Philosophy in Logic: Skolem, Herbrand, Gödel' (three lectures); Smeed Memorial Lecture by Brian O'Neill (Insurance Institute for Highway Safety) on 'The Insurance Institute for Highway Safety: Research Arm of US Insurers and Servant of the Public'; Smith Kline Beckman Lecture in the Allied Health Sciences by Dr R. H. Michell (University of Birmingham) on 'Inositol Lipids in Cellular Signalling'; Stewartson Memorial Lecture by Dr M. E. McIntyre (University of Cambridge) on 'The Lagrangian Description in Fluid Dynamics'; William Townsend Lecture by Dr Andrew Causey

(University of Manchester) on 'Classical and Romantic in the Art of Wyndham Lewis'. Inaugural Lectures were given by Professor M. P. Barnes (Professor of Scandinavian Philology) on 'From Runes to Reflexives: Old and New in Scandinavian Language Research', Professor R. Blundell (Professor of Political Economy) on 'Empirical Evaluation of Tax and Benefit Reforms; The Use and Abuse of Econometrics', Professor W. D. Dover (Professor of Mechanical Engineering) on 'Cracking, an Offshore Problem?', Professor M. D. A. Freeman (Professor of English Law) on 'Towards a Critical Theory of Family Law', Professor H. M. Hodkinson (Barlow Professor of Geriatric Medicine) on 'The Older Person's Response to Physical Illness', Professor D. H. Michael (Professor of Mathematics) on 'Cracking, a Mathematical Problem?', Professor J. E. Midwinter (British Telecom Professor of Optoelectronics) on ' "Light" Electronics. Myth or Reality?', Professor P. A. Riley (Professor of Cell Pathology) on 'Pathological Migration: From Melanin to Malignancy', Professor C. S. R. Russell (Astor Professor of British History) on 'The British Problem and the English Civil War', Professor A. G. Watson (Professor of Manuscript Studies) on 'Changing Attitudes to Medieval Manuscripts in Sixteenth- and Seventeenth-Century England', Professor R. C. Woledge (Professor of Experimental Physiology) on 'Some of Nature's Experiments with Muscle'. Current Legal Problems Lectures were given by (i) Professor Harry Krause (Illinois) on 'Cohabitation after *Marvin* v. *Marvin*', (ii) Martin Wassick (University of Manchester) on 'Rules of Evidence in the Sentencing Process', (iii) John Usher on 'The "Good Administration" of European Community Law' (iv) David Hutchinson on 'The Seaward Extent of Continental Shelf Jurisdiction in Customary International Law', (v) Professor Harold Luntz (University of Melbourne) on 'Assessment of Damages for Personal Injury: an Australian Perspective on English Law', (vi) Dr Cento G. Veljanovski on 'Theorising About Tort', (vii) Sir Thomas Bingham on 'The Judge as Juror: The Judicial Issues', (viii) Professor H. W. Arthurs on 'Understanding Labour Law; The Debate Over Industrial Pluralism', (ix) Professor S. M. Cretney (University of Bristol) on 'Money After Divorce: The Mistakes We have Made'; A lecture in Biochemistry was given by Dr Saul L. Neidleman (Cetus Corporation, California) on 'Biological Halogenation: Implications for Survival'; an L. S. Bosanquet Lecture was given by Professor D. C. Russell (York University, Ontario) on 'Aspects of the Life and Work of Stephen Bosanquet' and Professor J. Rovnyak (University of Virginia and UCL) on 'Finite Convolution Operators'.

HONOURS AND DISTINCTIONS

In the New Year's Honours List Professor Randolph Quirk, Fellow of the College, former Quain Professor of English Language and Literature and Vice-Chancellor of the University of London, was created a Knight Bachelor. Mr Roy Pollard Harding, a former student of the College, also received a Knighthood for services to education. Sir Hugh Casson, Honorary Fellow of the College, was created a Companion of Honour and Mr I. H. Cohen, former student in the Department of History and Managing Director of Mullard Ltd, received a CBE. In the Queen's Birthday Honours List two former students were created Knights Bachelor, Mr Bernard Melchior Feilden for services to architecture, and Mr David Innes Williams, Director of the British Postgraduate Medical Federation.

The following were elected Fellows of the College in 1984-85:
Professor R. J. Gillespie, Professor of Chemistry at McMaster University, Canada; Professor G. P. Goold, Professor of Classics at Yale University; Professor K. O. Kemp, Emeritus Professor of Civil Engineering and Head of the Department of Civil and Municipal Engineering at UCL from 1969 to 1984; Professor Jiaxi Lu, President of the Chinese Academy of Sciences; Professor Sir Roy Marshall, Vice-Chancellor of the University of Hull; Professor G. M. Sifakis, Professor of Classical Greek Literature at the University of Thessaloniki; Mr J. C. Stillman, architect and partner in the practice of Stillman and Eastwick-Field; Dr P. M. Sutton, Director of the Public Health Service Centre for Applied Biology and Research, Porton Down; Professor K. Vickerman, Regius Professor of Zoology, University of Glasgow.

The following were elected Honorary Fellows of the College:
Professor D. V. I. Fairweather, Vice-Provost (Medical) and Head of the Department of Obstetrics and Gynaecology at UCL; and The Rt Hon. Lord Scarman of Quatt, Chairman of the Court of the University of London.

In March it was announced that six members of the College staff had been elected Fellows of the Royal Society: Professor D. Colquhoun (Department of Pharmacology), Professor J. L. Culhane (Department of Physics and Astronomy), Professor J. E. Midwinter (Department of Electronic and Electrical Engineering), Professor M. C. Raff (Department of Zoology and Comparative Anatomy), Professor J. M. T. Thompson (Department of Civil and Municipal Engineering) and Dr Anne E. Warner (Department of Anatomy and Embryology). Two of the College's Visiting Professors, Dr M. Gaster (Department of Mathematics) and Professor C. Hassall (Department of Chemistry), were also elected Fellows of the Royal Society together with two Fellows of the College, Professor Naomi Datta of the Royal Postgraduate Medical School, and Lord Perry, former Vice-Chancellor of the Open University.

Professor P. T. Kirstein, Head of the Department of Computer Science, Professor P. Dunnill, Professor Biochemical Engineering, and Professor J. R. Forrest, former Professor of Electronic Engineering, were elected Fellows of the Fellowship of Engineering.

Professor Sir Randolph Quirk was elected President of the British Academy; Professor H. S. Smith, Head of the Department of Egyptology, and Mr G. A. Cohen, former Reader in Philosophy, were elected Fellows of the British Academy.

Honours, awards and appointments were conferred on members or former members of the College as follows:

Sir James Lighthill, Provost — Honorary DSc of Brown University, Rhode Island; election as President of the International Union of Theoretical and Applied Mechanics for 1984-88; first recipient of the newly instituted G. I. Taylor Medal awarded by the USA Society for Engineering Science; election as an Honorary Fellow of the Society for Underwater Technology in recognition of his services to the Society; Sir Andrew Huxley, Fellow of the College — Honorary DSc of the University of Keele, and Honorary ScD of UWIST; installed as Master of Trinity College, Cambridge; Professor Sir Randolph Quirk, Fellow of the College — Honorary DLitt of the University of Newcastle upon Tyne; Dr V. Karageorghis, Fellow of the College — elected Membre Associé Etranger of the Académie des Inscriptions et Belles Lettres; Emeritus Professor Sir William Coldstream, Fellow — Honorary DLitt of the University of London; Emeritus Professor Patricia H. Clarke, formerly Professor of Microbial Biochemistry — Leverhulme Emeritus Fellowship in the University of Oxford and Honorary Professorial Fellowship at UWIST; Honorary DSc of the University of Kent; Emeritus Professor A. L. Cullen, formerly Pender Professor of Electrical Engineering — a Royal Medal of the Royal Society in recognition of his many distinguished contributions to microwave engineering, both theoretical and practical, and in particular for research on microwave antennae; Professor D. E. N. Davies, Professor of Electrical Engineering — an award by the Rank Prize Fund (to the value of £10,000) for his work on optical fibres which led directly to the invention of optical fibre sensors; Professor J. L. Jowell, Dean of the Faculty of Laws — Chairman of the Committee of Heads of University Law Schools; Professor J. Sandler, Freud Memorial Professor of Psychoanalysis — Honorary LLD of Clark University, Massachusetts; Mr P. Laister, member of Council — Honorary Fellow of UMIST; Dr Rosemary Ashton, Lecturer in the Department of English Language and Literature — the British Academy Thank-Offering to Britain Research Fellowship 1984-85 for her work on German exiles in England after 1848; Dr H. D. Clout, Reader in Geography — awarded the Royal Geographical Society Edward Heath Award for contributions to the geography of France; Dr J. G. A. Croll, Reader in Structural Engineering — awarded (together with Dr C. P. Ellinas) the Telford Premium for 1982 from the Institute of Civil Engineers and the Thomas Bernard Hall Prize for 1983 from the Institution of Mechanical Engineers for their research contributions dealing with the buckling collapse of shell components used in marine structures; Mr K. Robson of the Bursar's Department — Annual Prize of £50 and a vellum from the Worshipful Company of Painters and Stainers; Dr A. W. Segal, Senior Clinical Lecturer in the Department of Haematology, and Dr J. G. Yates, Reader in Chemical Technology

in the Department of Chemical and Biochemical Engineering — DSc of the University of London; Mr A. Stillmark, Lecturer in the Department of German — elected 'Korrespondierendes Mitglied des Adalbert-Stifter-Institutes' by the Oberöstrerreichische Landesregierung.

APPOINTMENTS

The following professorial appointments have been made during the session: Professor K. J. Ives succeeded Professor K. O. Kemp as Chadwick Professor of Civil Engineering and as Head of the Department of Civil and Municipal Engineering.

Dr M. G. Marmot, Senior Lecturer in Epidemioloy at the London School of Hygiene and Tropical Medicine, took up the Chair of Community Medicine jointly tenable at The Middlesex Hospital Medical School and UCL, and was also appointed Head of the Joint Department of Community Medicine. Professor M. Hodkinson, Professor of Geriatric Medicine at the Royal Postgraduate Medical School, was appointed to the newly established Barlow Chair of Geriatric Medicine and to the Headship of the Joint Department of Geriatric Medicine. Mr R. Blundell came from the University of Manchester to take up appointment as Professor of Political Economy. Professor F. T. Smith, Professor of Applied Mathematics at the Imperial College of Science and Technology, took up appointment to the Goldsmid Chair of Mathematics formerly held by the late Professor Stewartson. With a grant from the University under its academic initiatives scheme a new Chair of Community Dental Health and Dental Practice was established and Professor A. Sheiham from the London Hospital Medical College was appointed to it. With the establishment of a Joint Department of Community Dental Health and Dental Practice between UCL and the LHMC the Chair was later made jointly tenable at the two Schools. With generous financial support from British Telecom the College's proposal for the establishment of a British Telecom Chair of Optoelectronics was approved by the University and Dr J. E. Midwinter, Special Division Head of the British Telecom Optical Communications Technology Division, was appointed to the Chair. Professor C. S. R. Russell, Professor of History at Yale University, took up appointment to the Astor Chair of British History. Following the establishment of the Freud Memorial Chair of Psychoanalysis Professor J. Sandler, Sigmund Freud Professor of Psychoanalysis at the Hebrew University of Jerusalem, who had held the Freud Memorial Visiting Professorship in 1978-79, became the first holder of the Chair. The Astor Chair of Physiology, jointly tenable at UCL and the MHMS, was filled by the appointment of Dr J. A. Stephens from the United Medical and Dental Schools (St Thomas's).

The University approved the following conferments of title of Professor: Dr M. J. B. Duff (Applied Physics), Dr P. Dunnill (Biochemical Engineering), Dr W. R. Eatock-Taylor (Ocean Engineering), Mr M. D. A. Freeman (English Law), Dr Valentine Korah (Competition Law), Mr D. K. Lal (Political Economy), Dr Ursula Mittwoch (Genetics), Dr P. A. Riley (Cell Pathology), and Dr R. C. Woledge (Physiology).

Readerships were conferred upon the following: Ms Victoria Chick (Political Economy), Dr P. H. Ellaway (Physiology), Mr J. T. Hooker (Greek and Latin), Dr J. S. Kahn (Anthropology), Mrs Anna L. Lepschy (Italian), Mr C. McGinn (Philosophy), Dr D. L. Moores (Physics), Dr R. J. C. Munton (Geography), Dr D. Parker (Medical Physics), Dr M. G. Wilson (Electrical Engineering) and Dr J. G. Yates (Chemical Technology).

In consequence of the retirement of Professor L. J. Rydill, Professor of Naval Architecture on secondment to the Department of Mechanical Engineering and the Royal Corps of Naval Constructors, Mr C. V. Betts was seconded to the Department and the title of Professor of Naval Architecture was conferred upon him by the University.

The College made a number of distinguished appointments to Visiting Professorships in the course of the session:

Dr M. Gaster, Principal Scientific Officer at the National Maritime Institute (Mathematics); Dr R. J. Gibbs, Director of Operational Research Services at the DHSS (Statistical Science); Dr A. J. Martin, formerly General Manager of Exploration with British Petroleum (Geology); Mr C. K. Howes, Director of Land Economy and Head of the Planning and Land Use Division of the Department of the Environment (Bartlett School of Architecture and Planning); Dr N. J. Price, formerly Reader in Structural Geology at the Imperial College of Science and Technology (Geology); Professor J. K. Mati, Chairman of the Department of Obstetrics and Gynaecology at the University of Nairobi (Obstetrics and Gynaecology); Professor D. Metcalfe, Head of the Department of General Practice at the University of Manchester (Community Medicine); Professor J. Frankel, Professor of Hebrew and Jewish Studies at the Hebrew University of Jerusalem (Hebrew and Jewish Studies); Professor H. W. Arthurs, Professor at the Osgoode Hall Law School of the University of York in Toronto (Laws); Professor E. D. Brown, Professor of Law at UWIST and Director of the Centre for Marine Law and Policy (Laws); Professor R. Dworkin, Professor of Jurisprudence in the University of Oxford (Laws); Dr G. Kalmus, Group Leader of the Bubble Chamber Research Group of the High Energy Division of the Rutherford Appleton Laboratory (Physics and Astronomy).

In the course of the session a number of appointments to Headships of Department were made:

Professor R. P. Meijer (Dutch); Professor B. N. C. Prichard (Clinical Pharmacology); Professor S. J. G. Semple (the new single UCL/MHMS Department of Medicine); Professor Annette M. Lavers (French Language and Literature).

Professor H. G. T. Maehler was appointed Acting Head of the Department of Greek and Dr M. J. Geller was re-appointed as Acting Head of the Department of Hebrew and Jewish Studies.

A number of other College appointments and elections were made:

Professor J. E. C. T. White (Vice-Provost); Professor D. V. I. Fairweather (Vice-Provost); Dr P. J. Verrill (Dean of the Faculty of Clinical Sciences); Professor T. J. Griffith (Dean of Students); Mr D. A. L. Morgan (Senior Tutor); and Mr C. E. Norton (Tutor to Engineering Students).

APPOINTMENT TO COUNCIL

Mr Terry Hunt, the General Manager of the North East Thames Regional Health Authority, was co-opted to serve as a member of Council, for five years with effect from February 1985.

RETIREMENTS

Professor Peter R. Bell, who retired in September 1985, first joined the Department of Botany in 1946, having graduated in the subject at Cambridge. In the early years he was much involved in ecological teaching and research with a particular interest in bryophytes. Then followed a period of co-operation with Professor Frey-Wyssling in Zurich leading to the development of electron microscopy as a discipline within the department at UCL. In recent years his research interests have centred on the reproductive structures of ferns. After a year as a Visiting Professor at the University of California at Berkeley he was appointed to a personal chair at UCL in 1967 and became Quain Professor of Botany and Head of the Department of Botany and Microbiology in 1978. Always an enthusiastic supporter of the German university system, Peter had long-standing interests in the German scientific literature and indeed was co-translator of a major botanical textbook, Strasburger's *Lehrbuch der Botanik*. His retirement after 39 years in the department will afford him increased opportunity to indulge his passion for mountain walking and his appointment as Emeritus Professor will ensure his continued involvement with the department and the College.

Professor J. S. Cummins, who retired in September 1985, graduated from King's College London. After teaching at St Andrew's and King's, he collaborated in the founding of the Department of Spanish at Queen Mary College, London. He was appointed Senior Lecturer in Spanish at UCL in 1964, faced with the onerous task of reopening the Spanish Department which had been closed for 135 years following the departure in 1830 of Antonio Alcalá Galiano, the first Professor of Spanish in Great Britain, before taking up this appointment he spent a year on a Rockefeller Scholarship, researching in the Far East (China, Japan and the Philippines) and Central America. Once the new Department was established a totally new syllabus was instituted combining the study of Spanish and Portuguese Literature and History with Latin-American Studies which were still in their infancy at that time. As part of the new syllabus, Professor Cummins taught Spanish, Colonial and 18th century literature. The new degree course (Modern Iberian and Latin American Regional Studies) proved very successful and led others to adopt the innovation. Successively Reader and then Professor, Jim Cummins's main interest lay in the reactions of Europeans (i.e. Spanish) to the phenomenon of 'the Other' in Amerindian and, later, in Asian cultures. This interest naturally embraced the 16th century Spanish 'Struggle for Justice' for colonial peoples, and also included the history of Renaissance science in Ch'ing China, and the moral and economic impact of China on the European Enlightenment. His scholarly interest in the influence of Spanish culture upon Colonial Spanish America and the Philippines has won him an international

reputation, and a selection of his articles on these studies are to be published by Variorum Press. An inspiring teacher and a gentle and approachable Head of Department, he will be warmly remembered and very much missed by all who knew him.

Professor S. P. (Prakash) Datta has retired after more than 40 years service in the Department of Biochemistry. Prakash Datta graduated from University College in both Chemistry and Medicine. His first full-time appointment was in 1947 as Assistant Lecturer. He was appointed Lecturer in 1950, Senior Lecturer in 1957 and Reader in 1959. The title of Professor of Medical Biochemistry was conferred on him in 1966.

Professor Datta has held many important offices in the College including Dean of the Faculty of Medical Sciences and Vice-Provost. It was largely due to his remarkable energy and tact that the reunification of UCHMS with UCL was achieved. He is an international figure in Biochemistry, known in biochemical circles the world over for his work as Treasurer of the Federation of European Biochemical Societies and as first Editor-in-Chief of one of the journals sponsored by the Federation. The success of the Federation is due in very large measure to the unstinting efforts and skill of Professor Datta. He is held in great affection by colleagues both in the Department of Biochemistry and elsewhere in the College. He will be remembered warmly by generations of medical students. His colleagues are delighted that his association with the life and work of the Department of Biochemistry will continue with his appointment as Honorary Research Fellow.

Lawrence Gowing became Slade Professor in 1975. As long ago as 1948 he was a Professor of Fine Art, first at Durham University (combined with Newcastle), then head of the new Chelsea School of Art (1958-65). He then became Keeper of the British Collection and Deputy Director at the Tate Gallery, 1965-67, returning to take up the Chair of Fine Art at Leeds University for eight years until he came to The Slade.

He was a member of the Arts Council from 1970-72 and 1977-81; the Art Panel, 1953-58, 59-65, 69-72, 76-81, its Deputy Chairman 1970-72 and 1977-81; Chairman of the Art Films Committee 1970-72; a Trustee of the Tate Gallery 1953-60 and 1961-64; of the British Museum 1976-81, and a Trustee of the National Portrait Gallery from 1960. He was a member of the National Council for Diplomas in Art and Design, 1961-65, and Chairman of the Advisory Committee on Painting for the Gulbenkian Foundation, 1958-64. He was awarded the CBE in 1952, MA (Service Degree) Dunelm, 1952; Hon DLitt Heriot Watt University, 1980; ARA, 1987, and knighted in 1982. He was once referred to in *The Standard* as the Pooh-Bah of the art world!

Here he reorganised the Undergraduates into four studio groups, each representing a different attitude to Fine Art. In 1975 the Slade Diploma was replaced by the BA Degree in Fine Art, which was first awarded in 1978. During the early years all the lectures necessary for Slade students in the History of Art were given by Lawrence himself and at the same time the options for Theoretical Studies were successfully developed to include almost all the subjects on offer

within the College. In 1980-81 he introduced a course in Drawing for Sculpture for Undergraduates and this has since developed into a new Undergraduate Sculpture course. In 1985, because of financial stringency, he inaugurated the 'Friends of The Slade' to provide in the first place more money for the students' materials grant and to ensure the provision of models.

Lawrence Gowing is a singularly distinguished writer and lecturer and is recognised as having made a unique contribution as a man of letters, educationalist and painter. Among his writings during his time as Slade Professor were *Matisse* and *Lucien Freud* (both published Thames and Hudson) and the editorship of the Macmillan two-volume *History of Art.* In 1984-85 he wrote and presented three BBC Television programmes, on Vermeer, Cezanne and Masaccio, and completed work on three more shown in January and February 1986, on Goya, Breughel and Matisse.

Lawrence, by his teaching and example, helped to further serious interest in the representation of appearance that carries on the tradition formed originally by William Coldstream and their colleagues in the Euston Road School but he was accessible to all the members of The Slade and particularly so if delighted with the use of a new word or turn of phrase.

Principally, Lawrence would see himself as a painter. He has exhibited throughout his career and his pictures are in numerous public and private collections both here and abroad. He has continually executed important portrait commissions, including well-known figures in academic, political and public life. In 1983 a major Arts Council Retrospective Exhibition was held at the Serpentine Gallery with approximately 170 works dating from 1929 (when he was eleven) to 1983. This exhibition had, for the main part, landscapes and portraits derived from the study of appearance but there was also a section of paintings made more directly from the figure in a surprising mode of body art, many of which had been painted in his studio at The Slade. The erudition expressed in his writing and the enthusiasm of his painting will always be remembered here with affection and respect.

Professor David Lowenthal retired from the Department of Geography in September 1985 after a long and distinguished career in both the United States and Britain. A graduate from Harvard, Wisconsin and Berkeley, he was strongly influenced by Carl Sauer. He held a number of posts in the United States, most notably as Secretary of the American Geographical Society in New York. Here he developed the two strongest research interests — in the Caribbean and in landscape attitudes — that he has continued to investigate ever since. After first visiting University College London as an honorary research fellow in 1962-63, he returned in 1972 to the established chair in geography. Once here, he began to strengthen his studies of landscape attitudes as reflected chiefly in perceptions of the past, especially in the United Kingdom and the United States. Transatlantic comparisons strongly enrich his published work, most notably in *The Past is a Foreign Country* (Cambridge University Press, 1985). The Caribbean connection, reflected in his book *West Indian Societies* (Oxford University Press, New York,

1972), was also promoted through research in many Caribbean islands and the institutes of Commonwealth and Latin American studies in London. Professor Lowenthal, as an Emeritus Professor, remains in the Department and continues with his research and sustains his world-wide range of scholarly contacts throughout the social sciences.

Ian McKellar came to the College in 1972 as the first incumbent of the Careers Adviser's post in the reorganisation which brought the College under the aegis of the University of London Careers Advisory Service. A New Zealander and a graduate of Otago, Ian, despite coming to these shores thirty years ago, still identifies himself with the Long White Cloud and regards what he has been doing here as a record length of voluntary service overseas. That service has been invaluable to the many graduates who have passed through his office and his integration with the College was such that one could have been forgiven for forgetting that strictly speaking Ian was throughout an employee of ULCAS. In itself that fact also brought benefits to UCL students and Ian will be very much missed not only for his untiring dedication to careers advice but also for his contributions to College life outside that field, not least in our relations with schools in which he was, time permitting, always ready to assist the Schools Liaison Officer and the Registrar. We wish him much joy in the extra time which he now has to devote to bridge, golf and his garden.

Professor John Musgrove retired from the Headship of the Bartlett School and the Haden-Pilkington Chair of Environmental Design and Engineering on 30 September 1985 after twenty-five years' service in the College. Joining the Bartlett in 1960 from the Nuffield Foundation Division for Architectural Studies, John had already worked in the office of Lord Holford and was closely involved with developing techniques of architectural research, with particular application to hospitals and laboratories, in collaboration with Richard Llewelyn-Davies. Promoted from Senior Lecturer to Reader in 1966, to a personal Chair of Architecture in 1971, and to the Haden-Pilkington Chair in 1978, he founded the Unit for Architectural Studies at the Bartlett in 1965 and as its director conducted several SRC and DES-funded research programmes on space and facilities in universities. Many postgraduate research students have benefited over the years from John's wise counsel and, in addition to his enormous contribution within the Bartlett School and its development, he has been Dean of the Faculty of Environmental Studies, a member of College Council and the Fellows Committee, and has taken part in a large number of extra-mural activities which include chairmanship of the RIBA Research Committee, the ARCUK research awards panel, and membership of several NEDO committees. As he is currently editing a new edition of Banister Fletcher's History of Architecture on behalf of the University and the RIBA, with a publishing date after his retirement, it is hoped that John Musgrove's great experience of College and University affairs will not be lost yet awhile to the Bartlett School.

Miss Elizabeth M. Ridley first came to the College in 1953, joining the Slade School administrative staff in July that year. Here she remained until 1963, she

resigned to visit her family in Australia. During this important decade she met and helped many Slade students and her influence was much valued.

Betty continued her travels, returning in 1965 to help out in temporary posts in College departments. From 1966 to 1968 she held the appointment of Welfare Officer to the College of Fashion and Clothing Technology. With the formation of the Personnel Department in 1968 came the opportunity to return to College and Betty rejoined to look after the affairs of administrative, secretarial and library staff. Here she has given loyal service to the staff and the College for the last 17 years and will be remembered with affection.

Professor P. N. Rowe retired in September 1985 after holding the Ramsay Memorial Chair of Chemical Engineering for twenty years. After war service and graduation from the University of Manchester, he carried out research at Imperial College followed by postdoctoral work on supersonic flow through rocket nozzles. In 1958 he joined the Atomic Energy Research Establishment at Harwell and within a short time had established himself as a leading authority on the unit operation of fluidisation. His continued and outstanding success in this branch of engineering has stemmed to a considerable extent from his remarkably clear-sighted ability to devise simple model experiments to interpret complex phenomena. For his distinguished contributions to his subject he was elected to the Fellowship of Engineering in 1981 and in the same year he was honoured by his profession by being elected President of the Institution of Chemical Engineers. Peter Rowe has been 'a good College man'. He has served diligently on innumerable committees and as Dean of Engineering. The 1981 Rowe Report on Library Resources was an important milestone in the rationalisation of library staffing and financing. For many years he was secetary of the Professors' Dining Club, a duty that he performed with the enthusiasm expected of one who believes strongly in the social event as a means of enriching College life. His renowned hospitality over the years has worked wonders for good relations in both Department and College. Peter has indeed served the College well and with distinction, and it is good to know that we are not going to lose contact with him. He will continue to be associated with the Department as an Honorary Research Fellow and we can expect to see him frequently in the College.

In Professor David Wilkie the Department of Botany and Microbiology loses one of its more colourful colleagues. An intrepid aeronaut and a notable sportsman and a distinguished geneticist, the first to discover the existence of heritable elements in mitochondria; these are attainments rarely encountered in one individual. David Wilkie's enthusiasm, particularly as his research into mitochondria continued to reveal yet new and controversial complexities, infected many students with the excitements of experimental biology. His contribution to the intellectual life of the Department will be sorely missed.

Dr John Watling, Reader in Philosophy, retired in September 1985 after thirty-six years' service to the College. He joined the College as an undergraduate in the Department of Psychology in 1946 and graduated with first-class Honours in 1949. In 1949 he entered the Department of Philosophy as a graduate student and a part-

time research Assistant. He was appointed Assistant Lecturer in 1952, Lecturer in 1953, Senior Lecturer in 1965 and Reader in 1966. For many years he acted as Postgraduate Adviser and in 1983 he became Head of the Department of Philosophy. The subject closest to his heart has always been the philosophy of science and he is at present at work on his magnum opus. But in fact he has a remarkable range of philosophical interests, and this enabled him to make an immense contribution to teaching in the Department. He was an extremely popular teacher, who willingly gave a large amount of his time to students, and whose enthusiasm for the subject was infectious. He will be missed by his colleagues for his loyalty, energy and great cheerfulness.

RETIREMENTS FROM COUNCIL

It was with regret that the College learnt of the retirement of Sir Colin Crowe after nearly ten years as a member of Council. He has been its Vice-Chairman since 1978. Sir Colin was educated at Oriel College Oxford, where he read history, and is a retired member of HM Diplomatic Service, where his very varied career included a number of important overseas postings. His interests have ranged widely over College affairs and his membership of committees has included those concerned with finance, pensions, the Slade School and the election of Fellows of College. He has provided invaluable help and advice to the College on many important matters and will be much missed.

The College was also sorry to lose the services of Dame Margaret Booth after five years as a member of Council. Dame Margaret Booth was educated at UCL and was awarded the degree of Master of Laws. A member of the Middle Temple, Dame Margaret was called to the Bar in 1956 and became a member of Queen's Counsel in 1976. Dame Margaret acted as Chairman of the Family Law Bar Association from 1976-78, and in 1979 was made a Judge of the High Court, Family Division. She was elected a Fellow of the College in 1981.

Mr J. H. Whittley's term of office as a member of Council came to an end on 30 September 1985. He is a senior civil servant in the Accountancy Services division of the Department of Industry and is also Chairman of the Special Trustees for University College Hospital. He continues to serve on the Investments Committee of UCL.

RESIGNATIONS

Professor Eric Ash resigned from the Pender Chair of Electrical Engineering and Headship of the Department of Electronic and Electrical Engineering at the end of the session to take up the post of Rector of Imperial College of Science and Technology, London. Eric Ash joined the department in 1963 and was appointed to a personal Chair four years later. His outstanding contributions to research in optics has led to many awards and distinctions including the Marconi International Fellowship. He was elected to the Royal Society in 1977, the Fellowship of Engineering in 1978 and awarded the CBE in 1983. He took on the Headship of the Department in 1980 and his ceaseless hard work for the department (most hours of the day and night), have been instrumental in a substantial growth of

activities, staff and research reputation. Apart from service on a range of College committees, he has been Dean of Engineering (1981-83) and an enthusiastic promoter of and lecturer in the lunch-hour lecture programme. His passionate belief in the importance of improving the general working environment of the College has led to many improvements in the Engineering Building which we all appreciate. We will miss his enthusiastic lecturing style, inspired research leadership and sound advice — but not entirely; since his appointment as Honorary Professorial Research Fellow in the department will enable him to retain contact with his research and his UCL colleagues. He carries our very best wishes with him to his new post.

John Clements resigned his post of Deputy Finance Officer to take up the position of Deputy Director of Finance at the University of Sheffield in May 1985. John's six years at the College corresponded with the most swingeing cuts in UGC resources ever experienced, and his contribution towards the establishment and monitoring of College savings targets was invaluable. But he will almost certainly be remembered for master-minding the introduction of the College's own computerised budgetary control systems and opening the way for other such in-house computer developments within the framework of the University's administrative computing arrangements. The subsequent consultant's report on University of London computerisation (by Deloitte, Haskins and Sells) strongly recommended devolution of responsibility to the larger Schools from the centre on precisely the lines that John had pioneered at UCL in the Finance Division, thereby vindicating his approach.

After graduating with honours from Leeds in 1967, Dr J. C. Cawley went to Cambridge successively as Medical Research Council, Leukaemia Research Fund and Ellmore Research Fellow. He obtained his PhD from Cambridge in 1972, subsequently became MRCP and MRCPath (1976 and 1982) and was awarded MD with distinction from Leeds in 1980. He is assistant editor of the *British Journal of Haematology*. While at Cambridge he developed, under the direction of Professor F. G. J. Hayhoe, his current interest in leukaemia. His main research interests have related to the application of cytological, cytochemical and immunological techniques to the identification and characterisation of leukaemic cells. He returned to Leeds in 1976 as Lecturer in Medicine with Professor G. P. McNicol. Dr Cawley was appointed Senior Lecturer and Consultant in the Department of Haematology at University College London in 1979 and in 1983 became Reader by conferment of title in the University of London. He will take up the Chair of Haematology at Liverpool in September 1985.

Jerry Cohen, Reader in Philosophy, resigned his post in December 1984, following his appointment as Chichele Professor of Social and Political Theory at University of Oxford. After graduating from McGill University, Montreal, he continued his studies at Oxford before joining the Department of Philosophy at University College London in 1963. In the mid-1960s he started to apply himself to the study of Marx, which culminated in the publication of his outstanding *Karl Marx's Theory of History* (1978). He was promoted to Reader in 1979. Jerry Cohen is an enthusiastic and dedicated teacher, and during his time in the Department he built up a small group of postgraduate students who pursued the study of Marx with his own tenacity and rigour. His energy, cleverness and wit are a great loss to the Department of Philosophy.

Stephen Fender is leaving the Department of English Language and Literature

in October 1985 to take up the Chair of American Studies at the University of Sussex. He came to UCL from University of Edinburgh, and had previously been an undergraduate at Stanford, and a graduate student first at Cardiff and later at Manchester. He was one of the first appointments to the department for many years who had not been a student of the College. At the time of his arrival in 1969 the department was preparing to free itself from what many here thought to be a repressive and unreformable University syllabus in English, and Steve's energy and diverse experience gave impetus to these efforts. His particular task was to be in charge of teaching American literature under the new College-based syllabus.

Steve rapidly expanded the teaching of American literature in the department. There was no textbook anthology of modern American poetry suitable for students of English so Steve assembled and published *The American Long Poem: An Annotated Selection* (1977). He added a further undergraduate course, and was to take the lead in the recent creation of an MA in Anglo-American Literary relations. In time, the American Literature course attracted the participation of a majority of the students of the department in what had once been a minority option. It also attracted the participation of many of the younger teachers of the department.

His time was not entirely taken up with American studies. His first book, published while he was still teaching at Edinburgh, was a monograph on *A Midsummer Night's Dream* (1960), and at UCL he taught courses in Shakespeare, Chaucer and Renaissance literature. Perpetually innovative, Steve saw the need for, and helped to establish a new course in, bibliography. Besides all this, he was for some years Admissions Tutor and played a vigorous part in the life of the College at large, serving on Academic Board, Exco and Appointments and Promotions. But increasingly he turned towards his work in the field of American Literature and Anglo-American literary relations. His co-editorship of *The Journal of American Studies* from 1983 and the publication of his *Plotting the Golden West* (1982) have secured his reputation as one of the leading Americanists in the country. His friends in the Department of English Language and Literature wish him well in his new post and will miss his candour and tenacity in argument and his sense of fun.

Professor John Forrest resigned from the College to take up the post of Technical Director at Marconi Defence Systems in January 1985. John Forrest joined the Department of Electronic and Electrical Engineering from Stanford University as a Lecturer in 1970. He was promoted to Reader in 1980 and to a personal Chair in 1982. While John was a young lecturer in the Department, his research in antennas and solid state devices quickly drew international attention and led to substantial support from industry and government agencies. This resulted in very strong involvement with industry in the UK and abroad which has also strengthened the links between the College and industry both at departmental level and via the Academic Services Unit. We were all delighted to see him elected to the Fellowship of Engineering within months of leaving the College in 1985. Despite his move to industry his contacts with the Department remains strong and he is organising help in the form of industrial lecturers for postgraduate courses plus support and collaboration on research. His clear lecturing, friendly spirit and administrative skills are sadly missed, but offset by the growing links with him in his new role.

Mr Colin McGinn, Reader in Philosophy, resigned his post in September 1985, following his appointment to the Wilde Readership in Mental Philosophy at the

University of Oxford. Having graduated from the University of Manchester with a degree in psychology, he changed the direction of his studies by moving to Oxford in order to read for a higher degree in philosophy. He made the transition so successfully that he won the John Locke Prize and he was appointed to the staff of the Department of Philosophy at University College London in 1974. He quickly gained international recognition for his work in the philosophy of language and the philosophy of mind and was promoted to Reader in 1984.

Professor Ricardo Miledi has been associated with the College since 1958, when he came with a Rockefeller Travelling Fellowship to join in the research work of the Department of Biophysics. He had been trained as a medical doctor in Mexico, his native country, and had done postgraduate research at the Institute of Cardiology, Mexico City, and at the Australian National University at Canberra. At UCL he held a Lectureship until 1963 when he was promoted to Reader and two years later to a Chair in Biophysics. He was elected FRS in 1970. In 1975 he was awarded the Foulerton Research Professorship by the Royal Society, and in 1978 became Head of the Department of Biophysics on the retirement of Professor Sir Bernard Katz. He held this appointment until September 1984, when he resigned in preparation for a move to the University of California, at Irvine. Professor Miledi is distinguished for many important contributions to our knowledge of synaptic transmission in the nervous system and of long-term effects of 'trophic' interaction between neurones and effector cells. To name just a few of his pioneering studies, these were: (i) the direct exploration of the giant synapse in the squid by intracellular application of microelectrodes to the presynaptic terminals as well as the postsynaptic neurone; (ii) the elucidation of the role of calcium ions in transmitter release, culminating in the demonstration that intracellular ionophoresis of calcium in nerve terminals accelerates the process of quantal transmitter secretion; (iii) he was one of the originators of the technique of using α-bungarotoxin to label and isolate the acetylcholine receptor molecule in muscles and electric organs; (iv) most recently, he has combined the techniques of molecular biology and electrophysiology, injecting mRNA into amphibian egg cells and showing that it is possible to induce foreign neuroreceptors and incorporate them into the surface membrane of these cells. This was the first successful combination of these two powerful approaches, which is now being applied in many laboratories and is making many problems in cellular, and particularly, neuro-biology more easily amenable to experimental analysis. During his 26 years at UCL, Professor Miledi attracted a large number of postdoctoral scholars from overseas. His departure is a great loss to the College and to British science.

Dr R. E. Olver has been a member of the Paediatric Department for the past 15 years. He originally joined the department as an MRC Research Fellow (supported by an MRC grant) and was subsequently appointed to an established lectureship. In 1975 he was promoted to a senior lectureship with the aid of a grant from The Wellcome Trust and in 1982 a personal Readership was conferred. Dr Olver is leaving us to take up the Chair of Paediatrics in the University of Dundee. His most important research contributions have related to the secretion and absorption of fetal lung liquid which is important in relation to lung development and adaptation at birth. He has also taken a very active part in student teaching and in the clinical work of the Department at UCH. Indeed, Dr Olver is so much part of the Paediatric Department that it is difficult to imagine its future without him.

In 1984 John Sutherland left University College London, where he had been Reader in English Literature since 1976, to become Professor in the Division of Humanities and Social Sciences at the California Institute of Technology in Pasadena. Professor Sutherland's career has been a distinguished one. He came to University College in 1971 from the University of Edinburgh, where he had taught for seven years. During his thirteen years in London he was a valued and much liked colleague, and it was also during his time here that he published several important books on nineteenth and twentieth century fiction, specialising in publishing history and becoming an internationally known expert in the subject.

After his first book, *Thackeray at Work* (1974), Professor Sutherland turned his attention to the relationships between the great Victorian novelists and their publishers, the growth of the three-volume novel (and its demise), and the importance of the circulating libraries in the history of book publishing in the nineteenth century. In *Victorian Novelists and Publishers* (1976) he combined astute critical analysis of the works with observations about their production and marketing, often making suggestive connections between the two areas of interest. There followed two books on twentieth century publishing, *Fiction and the Fiction Industry* (1978) and *Bestsellers, A Study of Popular Fiction in the 1970s* (1980), which, as their titles suggest, deal with the complicated commercial and advertising transactions involved in modern book production. At present Professor Sutherland is completing work on a *Companion to Victorian Fiction,* a handbook which will contain information on the Victorian book trade and its socio-literary background. He is also beginning research for a life of the popular late Victorian novelist Mrs Humphry Ward.

John Sutherland was not only an extremely knowledgeable colleague, but a helpful and generous one, always ready to support and advise others. The California Institute of Technology has gained richly from our loss. We wish John Sutherland success and happiness in his new life in the United States.

OBITUARIES

Brian Duff died suddenly on 27 August 1984 at the age of 46.

Brian was a UCL man throughout his career. He entered the Department of Physics, as it then was, as an undergraduate in October 1956 and graduated with first-class honours three years later. He stayed on in the Department to carry out research under an enthusiastic young lecturer, F. F. Heymann, and together they performed a series of important experiments on the properties of positronium and developed a bond of close friendship and mutual respect which was to last for the remainder of Brian's life. He was a long-standing and active member of the Chemical Science Society and at the time of his death was the Society's President.

His PhD, in 1962, was marked by the award of a prestigious ICI Research Fellowship and a change of direction in his research, as the interests of the group concentrated on particle physics and the facilities available at CERN, Geneva. He collaborated in one of the early experiments on the CERN synchrocyclotron and, a few years later, in a pioneering experiment in which interesting events occurring inside a nuclear emulsion were located using external electronic detectors, a technique that has become of great importance in recent years.

The opening of NIMROD, the 8 GeV proton synchrotron at NIRNS (now Rutherford Appleton Laboratory) provided opportunities for particle physics experiments in the UK and, throughout the mid and late sixties, Brian was the

member of a UCL group that performed a series of precise elastic scattering experiments at the laboratory. But there were new developments at CERN. The Intersecting Storage Rings were being built and, largely at the instigation of the late E. H. S. Burhop, the group became part of one of the first collaborative experiments on the ISR. Brian spent what was, in retrospect, one of the most productive years of his career at CERN during 1971-72, playing a leading role in the British-Scandinavian Collaboration's work on particle production at unprecedented high energies and momentum transfers, which provided some of the first evidence, in strong interactions, for the existence of point-like constituents in protons — the quarks.

The discoveries of other types of quarks, and the expectation that they should combine with more familiar quarks to form new, short-lived particles, led to a revival of interest in the hybrid emulsion-counter technique, and the particle physicists at UCL were quick to exploit their expertise in this area. Early experiments by the emulsion group, both at CERN and in the United States have led, in recent years, to a series of experiments in which Brian played a crucial role. Indeed, the month before his death saw him at his best, in the counting room at CERN, coaxing even better performance from both the apparatus and his colleagues, at all hours of the day and night.

Those of us who were his colleagues have many enduring memories of Brian. We took his great competence as a teacher and a researcher for granted. His unwillingness to settle for anything less than the best was an integral part of his character, but it was his ability with people that set him apart. Whether dealing with a Vice-Chancellor, an awkward collaborator, an enthusiastic graduate student or a diffident interviewee, Brian always had the phrase and gesture to make maximum impact and put the other at ease. This was no mere politeness. Brian really cared.

His death robs the Department of a colleague whose leadership for two more decades had been taken for granted; he will not be easily replaced.

Professor A. C. Gimson, Emeritus Professor of Phonetics in the University of London, died at his home in Petts Wood, Kent on 22 April 1985, aged 67. His death is an irreplaceable loss for his family and his many, many friends, as also for the discipline of phonetics to which he devoted his distinguished career.

He was educated at Emmanuel School and University College where, as a student of French, he was first introduced to phonetics by Helene Coustenoble and Professor Daniel Jones.

After six years in the army, serving in the Intelligence Corps, mainly as liaison officer with French and Polish allied forces, he returned to University College in 1945 as a Lecturer in the Department of Phonetics, where he spent the remainder of his life. He was appointed Reader in 1961, Professor in 1966 and succeeded the late Professor D. B. Fry as Head of Department (now combined into the Department of Phonetics and Linguistics) in 1971. He continued in this position until his retirement in 1983, though retirement brought no diminution in his many academic and other activities.

He first interested himself in the pronunciation of earlier forms of English, but his most important work was done in modern English pronunciation, his main contributions being his *Introduction to the Pronunciation of English* (1962), which remains the standard work, and his editorship of the *English Pronouncing Dictionary*, which he assumed on the death of its author and his mentor, Daniel Jones. His

many revisions of this work (he was busy on yet another at the time of his death) have ensured that it too remains the standard work.

For many years from 1950 he was secretary of the International Phonetics Association and editor of its journal. When he relinquished these positions he was elected Life President of the Association.

His devotion to University College over nearly half a century was unstinting. He spent a great deal of time and acumen in contributing to the management of its affairs as well as to those of the wider University. For his services he was honoured in 1975 by election to a Fellowship of the College.

Gim's scholarly contribution was considerable but his human contribution was considerably greater. Generations of students and colleagues have reason to be grateful for his outstanding personal qualities of friendship, loyalty and compassion; for his help and kindness; for his generosity of mind, his total availability, his wise counsel and the sheer fun that he never failed to engender.

He had a vast network of friends all over the world; we all grieve with his family at our loss.

The unexpected death of Miss Muriel Hopley on 15 January this year was a great shock to her many friends and colleagues throughout UCL. Joining the Staff of the Publications Office in 1957, her sound common sense and judgement, combined with a considerable expertise in the Publications field, ensured her progression to Publications Assistant, through to Assistant Publications Officer and finally to the responsible position of College Publications Officer. For almost thirty years her work continually brought her into contact with all sections of College Staff, and her cheerfulness and willingness to offer help and advice, both professional and personal, will be sadly missed.

The College noted with regret the deaths during the course of the year of the following: Dr Jane Abercrombie, former Reader in Architectural Education in the Bartlett School; Sir Vahe Bairamian, Fellow; Mr R. Burn, Fellow; Dr H. K. Cameron, Fellow; Miss Gertrude Caton-Thompson, Fellow; Mr C. A. N. Evans, member of staff in the Department of Physiology 1926-84; Dame Annis Calder Gillie, Fellow; Mr A. Gross, former member of staff in the Slade School of Fine Art; Brigadier E. A. L. Gueterbock, former Secretary of the College; Dr N. Heathcote, former Reader in the Department of History and Philosophy of Science; The Rt Rev. M. Hodson, Fellow; Professor D. Holland, former Sub-Dean in the Faculty of Laws and Dean of Students; Sir John Walker, Fellow; Mr A. Watson, member of staff in the Bursar's Department; Emeritus Professor F. R. Winton, former Professor of Pharmacology.

PUBLICATIONS* AND EXHIBITIONS

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APPENDIX I

NUMBERS OF STUDENTS 1984-85*

	Under-graduate		*Post-graduate*		*Total*	
Faculty of Arts	1,315	(40)	348	(155)	1,663	(195)
Department of Political Economy	300	(1)	21	(8)	321	(9)
Slade School of Fine Art	98	(0)	95	(0)	193	(0)
	1,713	(41)	464	(163)	2,177	(204)
Faculty of Science	1,621	(12)	†627	(156)	2,248	(168)
Faculty of Medical Sciences‡	300	(0)	11	(11)	311	(11)
Faculty of Engineering	480	(0)	257	(74)	737	(74)
Faculty of Laws	305	(8)	184	(62)	489	(70)
Faculty of Environmental Studies	163	(2)	263	(61)	426	(63)
Faculty of Clinical Sciences	488	(0)	36	(25)	524	(25)
	5,070	(63)	§1,842	(552)	6,912	(615)

* As at 31 December 1984.

† This figure includes 97 full-time and 46 part-time students working in the College Faculty of Medical Sciences who were registered in the University Faculty of Science.

‡ Non-clinical Medical and Dental students only (excluding Intercalated BSc students included in Science).

§ Of this number 1,044 full-time students and 528 part-time students were registered for higher degrees of the University of London; the remainder were working for higher diplomas of the University or of the College, or for the higher degrees of other universities, or were engaged in research work, or attending postgraduate lecture courses.

The figures in brackets indicate the number of part-time students included in the total under each head.

APPENDIX II

UNIVERSITY FIRST DEGREE AND DIPLOMA AWARDS

1 OCTOBER 1984 — 30 SEPTEMBER 1985

FACULTY OF ARTS

BA Degree	*1st Class Honours*	*2nd Class Honours Upper Div.*	*2nd Class Honours Lower Div.*	*3rd Class Honours*	*Pass*	*Total*
Ancient World	1	5	4	—	—	10
Anthropology & Geography	—	2	2	—	—	4
Classical Archaeology	—	1	—	—	—	1
Classics	1	3	4	—	—	8
Classics & Ancient History	—	1	1	—	—	2
Dutch	—	—	1	—	—	1
English	5	20	15	3	—	43
Fine Art	3	15	6	3	1	28
French	4	16	14	—	—	34
Geography	4	22	21	2	1	50
German	—	8	9	—	—	17
History	1	25	17	6	2	51
History of Art	2	8	9	—	—	19
Italian	—	1	10	1	—	12
Latin	—	2	—	—	—	2
Linguistics	3	3	5	—	—	11
Medieval Archaeology	—	1	2	—	—	3
Modern Iberian & Latin American Regional Studies	1	6	5	—	—	12
Philosophy	1	6	9	—	—	16
Scandinavian Studies	—	2	2	—	—	4
Spanish with French	—	1	1	—	—	2
Ancient History & Egyptology	—	3	—	—	—	3
Ancient History & Social Anthropology	—	4	3	—	—	7
English & German	—	2	2	—	—	4
English & History of Art	—	2	2	—	—	4
French & History of Art	—	3	1	—	—	4
French and Linguistics	—	—	2	—	—	2
French & Philosophy	1	1	—	—	—	2
German & Scandinavian Studies	1	4	—	—	—	5
History & History of Art	—	2	1	—	—	3
Philosophy & Economics	—	3	—	—	—	3
Philosophy and History of Art	—	1	—	—	—	1
	28	173	148	15	4	368

	Pass	*Total*
BA Degree (Aegrotat)	1	1

FACULTY OF LAWS

LLB Degree	*1st Class Honours*	*2nd Class Honours Upper Div.*	*2nd Class Honours Lower Div.*	*3rd Class Honours*	*Pass*	*Total*
	4	43	39	2	1	89

FACULTY OF MEDICINE

Basic Medical Sciences and Pharmacology Examination: 111 students passed.
Second Examination for Dental Degrees: 47 students passed.
MB, BS Degrees: 104 students passed, including 3 with distinctions.
BDS Degree: 48 students passed, including 6 with honours.

FACULTY OF SCIENCE

BSc Degree	*1st Class Honours*	*2nd Class Honours Upper Div.*	*2nd Class Honours Lower Div.*	*3rd Class Honours*	*Pass*	*Total*
Anthropology	4	14	9	2	—	29
Anthropology & Geography	—	1	—	—	—	1
Applied Physics	—	2	7	4	1	14
Architecture, Planning, Building and Environmental Studies	3	17	22	7	4	53
Astronomy	1	1	2	3	—	7
Astronomy & Physics	8	2	7	3	—	20
Biochemistry	1	12	8	—	—	21
Biology	—	1	1	—	—	2
Botany	1	—	1	—	—	2
Chemical Physics	1	—	—	—	—	1
Chemistry	8	11	8	7	—	34
Combined Biological Science	—	—	1	—	—	1
Computer Science	4	11	5	3	2	25
Computer Science with Electronic Engineering	—	1	2	—	—	3
Ecology	—	—	1	—	—	1
Exploration Geophysics	1	2	1	—	1	5
Genetics	—	4	3	1	—	8
Geography	1	9	7	4	—	21
Geology	3	3	13	—	—	19
Human Sciences	1	6	2	1	—	10
Human Sciences with Neuroscience	—	2	—	—	—	2
Mathematics	6	9	17	12	2	46
Mathematics & Astronomy	1	2	—	2	—	5
Mathematics & Physics	—	—	2	1	—	3
Mathematics with Physics	—	—	—	1	—	1
Medicinal Chemistry	1	6	3	1	—	11
Microbiology	1	2	5	2	—	10
Microbiology & Genetics	2	3	2	2	—	9
Pharmacology	—	6	4	1	—	11
Physics	7	3	9	5	2	26
Physiology	—	3	6	—	—	9
Psychology	—	21	18	—	—	39
Speech Sciences	2	12	24	3	1	42
Statistics	—	3	—	—	1	4
Statistics, Computing, Operational Research and Economics	1	3	5	3	—	12
Zoology	1	6	5	2	—	14
	59	178	200	70	14	521

BSc (Intercalated) Degree	1st Class Honours	2nd Class Honours Upper Div.	2nd Class Honours Lower Div.	3rd Class Honours	Pass	Total
Anatomy with Basic Medical Sciences	2	4	—	—	—	6
Basic Medical Sciences with Anatomy	1	—	—	—	—	1
Anthropology & Basic Medical Sciences	—	—	1	—	—	1
Biochemistry with Basic Medical Sciences	—	1	—	—	—	1
Biomedical Sciences	1	9	2	—	—	12
Computer Science & Basic Medical Sciences	—	—	1	—	—	1
History of Medicine & Basic Medical Sciences	2	2	—	—	—	4
Microbiology & Basic Medical Sciences	1	—	—	—	—	1
Pharmacology with Basic Medical Sciences	4	9	1	—	—	14
Physiology with Basic Medical Sciences	2	3	—	—	—	5
Psychology & Basic Medical Sciences	—	11	3	—	—	14
Sociology as applied to Medicine & Basic Medical Sciences	—	3	—	—	—	3
Zoology & Basic Medical Sciences	2	4	—	—	—	6
	15	46	8	—	—	69

FACULTY OF ENGINEERING

BSc (Engineering) Degree	1st Class Honours	2nd Class Honours Upper Div.	2nd Class Honours Lower Div.	3rd Class Honours	Pass	Total
Biochemical Engineering	1	2	1	1	1	6
Chemical Engineering	3	9	8	6	—	26
Civil Engineering	6	14	5	9	1	35
Electronic & Electrical Engineering	5	17	11	5	3	41
Electronic Engineering with Computer Science	5	2	2	1	—	10
Mechanical Engineering	6	7	5	8	3	29
Naval Architecture	3	1	3	—	1	8
	29	52	35	30	9	155

BSc (Economics) Degree	*1st Class Honours*	*2nd Class Honours Upper Div.*	*2nd Class Honours Lower Div.*	*3rd Class Honours*	*Pass*	*Total*
Economics	2	24	25	8	4	63
Economics & Economic History	—	3	2	1	—	6
Economics & Geography	—	2	7	—	—	9
Economics & Statistics	—	1	3	1	—	5
	2	30	37	10	4	83

APPENDIX III

UNIVERSITY HIGHER DEGREE AND HIGHER DIPLOMA AWARDS

1 OCTOBER 1984 — 30 SEPTEMBER 1985

FACULTY OF ARTS

PhD

Bartlett School of Architecture and Planning: Ralph E. Clark III, Seong-Kyu Ha, Kwi-Gon Kim. *Classical Archaeology:* Mary E. Voyatziz. *English Language and Literature:* Neil Berry, Neil C. Sammells. *French Language and Literature:* Fortunee Marcus, Judith M. Still, Catherine M. Walsh, Elisabeth F. G. Wilkie. *German:* Christoper J. Bates. *Greek:* Ian G. Glen, Lucy Goodison. *Hebrew and Jewish Studies:* Jean C. Cahm. *History:* Mildred O. Budny, Manuel A. Caballero Aguero, Stephen H. Coleman, Abdulhafid F. Elmayer, Kenneth C. Fincham, Jane B. Howard, Helen King, Duncan M. Tanner, Simon P. Ville, Dorothy E. Watkins. *History of Art:* Briget J. Elliott, Linda L. Merrill. *Italian:* Angela F. Emanuel. *Latin:* Elizabeth J. Pendleton. *School of Library, Archive and Information Studies:* Fateme Keshavarz, Ia C. Thorold. *Philosophy:* Alan E. Haworth, Belinda J. Richards, Paul A. Taylor. *Phonetics and Linguistics:* Victor O. Awonusi, Mihaly Brody, Muhsin Karas, Dinah K. C. Murray, Dorothy M. Neate. *Scandinavian Studies:* Judith Jesch. *Spanish and Latin American Studies:* Marcia Hoppe Navarro.

(40)

MPhil

Bartlett School of Architecture and Planning: Kelvin K. Chan, Michael Chan Chun Fung, Cheng Gilletta, John C. Eldon, Philip G. Hughes, Annabel Jackson, Shelagh McNerney, Ioanna Melaki, Pauline F. Norton, Susan J. Olswang, Mohamad H. Parvardin, Andrew J. Roscoe, William J. Tuckley, Catherine E. Turner, Alison P. Watkins, Gregory J. Wilson, Robert P. Woodman. *English Language and Literature:* William V. Ray. *French Language and Literature:* James Madden, Pauline Turner. *History:* Andrew S. Campbell. *School of Library, Archive and Information Studies:* Vinod K. Datta, Christopher C. Edwards, Benjamin W. K. Matogo. *Philosophy:* Ariadnie L. Komonthourou, Jonathan Wolff.

(26)

MA

Archive Studies: Kevin Brown, Kristina C. Grant, Caroline J. Humphreys, Serena M. R. Kelly, Margaret Meaden*, Peter M. Meadows, Urennah C. Olehi, Elizabeth J. Shepherd, Anita Wilson. *Area Studies:* Mark A. Bell. *Classics:* Catherine H. E. Redgrave. *German:* Elizabeth A. Fogg, Alison M. I. Hill, Jonathan P. Layburn, Jacqueline M. Pearce, Mette M. F. Petersen, Christina Rossety. *Library and Information Studies:* James O. K. Ajing, William E. Alexander, Alison J. Bailey*, Joanna Brown, Anne Carwardine, Valerie J. Fairbrass, Francis J. Firth, Richard A. Foster, Padmashree Kalraiya, Magdalen B. S. Lau, Helen A. Lishman, Helen F. Lister, Mathetha R. Molapo. Lucyanna Y. L. Moy Hing, Agnes O. Nortey, Cynthia I. D. Nyirenda, Sandra D. Olney, Amanda J. Peters, Clare C. A. Powne*, Alison M. Ray, Fehmida Roomi, Davina L. Russell, Mary T. J. Russell*, Jennifer C. Ruthven, Hilary Sepahy, Andrea Stannard, Panicos Stylianou, Lesley S. Trenner, Alika Tsoukala, Margaret M. Watson, Sara A. Wilcox, Pamela K. Wood. *Linguistics:* Shohei Yoshida. *Philosophy:* Theodoros

Filaretos. *Phonetics:* Noriko Hattori, Michael E. Johnson*. *Romance Languages and Literature:* Sabine G. A. Siemens. *Scandinavian Studies:* Priscilla A. Brumfit, Helen J. Johnson, Tuva A. S. Tod, Atle B. Torud. (58)

University Postgraduate Diplomas: Fine Art: 47 Linguistics: 1
*Awarded Mark of Distinction

FACULTY OF ECONOMICS

PhD *Laws:* Alan C. Simpson. *Political Economy:* Miria A. Pigato. (2)

MSc *Economics 2:* Anne Fenelon. *Urban Development Planning:* Megh R. Adhikari, Ruth A. L. Agella, Abayomi S. B. Awoniyi, Mastaneh Badii*, Lubna Baqi, Alfredo L. Buso, Mami S. Dachi, Julio D. Davila Silva*, Mohammad H. Ebrahimi, Novatus Felician, Tania M. Ferreira, John G. S. Gillette*, Francis F. Halla*, Eva Havelka, Kamran A. Jamarani, Izaskun B. Landa Doxandabaratz†, Shakiru A. M. Makanjuola, Anurup B. Marathe, Benedict M. Mateka, Bernard D. Miller, Modj Mokone, Varaz Moradi-Massihi, Pilani Muyambo, Sreedharan Nayar P. K., Wilson K. Njora, N. Sundararajan, Lily F. Obieke, Romanus U. Onyekwere, Rajendra Paswan, Jonas Rabinovitch, Carlos Ribeiro Furtado, Concetcion M. Rincon De Rincon, Rafael Ros, Srinivasan Santhanam, Yahya K. Tadjbakhsh, Frederico Tarsitano Neto, Vivienne D. T. Uku, Kaktehene A. Uno. (39)

*Awarded Mark of Distinction
†Awarded 1983-84 but not included in the Annual Report for that year

FACULTY OF LAWS

LLM Remi M. Aiyela, Ang Sin Teck, Esther O. Balogun, Stephen J. Barrowclough, Amy Boorer, Chia Hsiu-Chen, Peter A. Corbett, Trevor A. Davis, Nikolaos G. Dendias, Dimitrios Diakopoulos, Lookman O. Durosinmi-Etti, Lorna S. Ewen, Ignacio Garcia Bercero*, Fodil Ghemari, Bertram R. Greenhalgh, Fanny Gropa, Adam S. L. Gross, Anastasia Iacovidou, Felicity R. Kaganas, Jeremy D. Karp, Ker Li-Ling, Hasan B. Lah, Lee Tau Chye, Olufunke A. Lijadu, Loo Choon Chiaw, Iain MacLeod*, Madhuri H. Malkani, Evan D. Marshall, Reuben A. Mbang, Mbhekwa A. Mncawabe, Mouaouia Mokhtari, Michael T. Molan, Hamzah Moosa*, Francis N. Mwiinga, Robin S. Nelson, Andrew Nessrallah, Ng Miling, Ng Peng Hong, Peter L. O'Brien, Olusegun O. Ogunbanjo, Gbadebo K. N. Ogunlami, Toyin D. Oluwa, Adenike A. Osinulu, Edirin E. Otomewo, Malcolm Pace, Pang Hok Liong, Pang Hwee-Ying*, Helen A. D. Pankhurst, Patrick E. Patterson, Jonathan M. Peacock, Alison M. Pert, Richard W. Renner, Reza Sabzevari, Bernard B. Sakora, Margaret V. Scorer, Cumarasamy Sithamparapillai, Graydon S. Soanders, Olatokunbo T. E. Sodipo, Constantinos Stamatiou, Tan Seck Sam, Carsten Tolderlund, Stephen J. Tonge, Penelope Tongue, Joseph Tse Lap-Bun, Surya N. Upadhyay, Gerard M. Vasquez, Stavroula Vassilouni, Ioannis Vekris, Kanta L. Wadhwan, Jeroo M. Warden. (70)

University Postgraduate Diplomas: International Law: 1 Shipping Law: 6
*Awarded Mark of Distinction

DSc Antony J. Deeming, Anthony W. Segal. (2)

PhD *Anatomy and Embryology:* Monica E. Baly, Noel J. Buckley, Douglas J. Gooday, Charles Kennedy, Lorna A. Meldrum, Michael R. Neve, Dona M. Scott. *Anthropology:* Yoram Carmeli, Michael D. P. O'Hanlon. *Barlett School of Architecture and Planning:* Subhi H. A. Al-Azzawi, Ian R. Davis, Josephine Kwan. *Biochemistry:* Alan Ashworth, Richard M. Bayney, Niall O. Dillon, Michael Hall, Susan J. Kenwrick, Christophoros Konialis, Ralph Pogge Von Strandmann, Catherine M. Rice, Theresa A. N. Ugoala. *Botany and Microbiology:* Al-Saied A. M. Helal, Roger I. Pennell, Karen P. Vondy, Hilary R. Wotton. *Chemistry:* David J. D. Barkel, Peter Douglas, Matthew C. P. Honan, Sarah K. Kimpton, Ian Mccubbin, Peter T. Peachell, Allan J. Price, Michael J. Sanders, Caroline J. Springer, Philip J. Wallbank, Malcolm L. Wolf. *Clinical Sciences:* David E. Hudson, Kersasp Katrak, Rosemary E. McDanell. *Computer Science:* Hua-Xin Zeng. *Genetics and Biometry:* Susan J. Lindsay, Pedro Saldana-Garcia, Nigel K. Spurr. *Geography:* Suzanne M. Jaynes, Paul J. Raven, John E. Thornes, Ann Varley. *Geology:* Bariwan M. Abdul Kareem, Peter Doyle, Guy W. F. Loftus, Edward A. Okosun, Se-Moon Park. *Mathematics:* Mujeeb A. Khan, John R. Mitchell, Trevor C. Price. *Pharmacology:* Christina E. Davies, Richard M. Healicon, Guy A. Kennett, Andrew P. Kent, Graeme R. Martin. *Phonetics and Linguistics:* David M. Howard. *Physics and Astronomy:* Mohammad H. Alamatsaz, David A. Bone, Keith Butler, Giles Clark, Robin H. D. Corbet, Paul J. Curry, Michael J. Diserens, Alan D. Farmer, Peter R. Hobson, John F. Lightfoot, Gerhardt P. Otto, David J. Potter. *Physiology:* Michael R. Duchen, Michelle Peckham. *Psychology:* Peter H. Cobb, Laura H. Goldstein, Cecilia M. Heyes, David Howard, Vanessa R. Moore, Margaret E. Redshaw, Leila V. Sharp. *Statistical Science:* Carl M. O'Brien. *Zoology and Comparative Anatomy:* M. K. Hari Kumar, Paul M. Kaye, Lesley J. Murray, Nance B. Nardi, Raul S. Pereira, Christopher E. Rudd, Brenda P. Williams. (55)

MPhil *Geography:* Abdelmajid Kochrad. *Zoology and Comparative Anatomy:* Najma M. Boukhdeir. (2)

MSc *Applied Molecular Biology and Biotechnology:* Louise E. Bidmead, Joanne E. Burn, Fiona J. Cunningham, David R. Harding*, Grace N. Kanu-Oji, Alison C. Morris, Suhad S. I. Musa, Thomas T. Salusbury, Simon C. Shorter, David J. Smith*, Jane S. Thorpe, Uta B. Voss. *Architecture:* Ahmed S. Ahmed, Abder R. M. A. R. M. Awartani†, Nadi F. K. Azab, Robert F. S. Branch, Clive L. Cassel, David S. Chou, Dahramsingh Dabeesingh, Adebowale O. Egunleti, Aly M. A. El Kousy, George Fatseas*, Sergio G. Fox, Zaki Ghiacy, Sylvan Golden-Padiachee, Anastasia-Aspasia Gospodini, Eric K. Gunther, Geoffrey C. Harwood, Ioma S. Jayewardene, Joseph A. Kerr, Vitus M. T. Kyissima, Liu Kam-Wah, Mahmood Humayun, John S. Mbaya, Aref Mehmood, William F. Menking, Ingnacio A. Modiano, Puteh K. Mohamed, Marianthi Panagiotou, Kenneth J. Parker, Stavroula Petropoulou*, Phang Yew Kee, Colleen L. Ramsay, Maria D. C. Reyes Garrido, Daniel J. M. Shabetai, Barry C. Symonds, Genie Tatarian, Ronald M. Wilkins, Graham M. Winch*, James S. Wolstenholme,

George P. K. Woo, Sophia A. Xenopoulou*, Xu Jianming. *Biochemical Engineering:* Iain Clenahan, Andrew R. Cockshott*, Philip J. David, Major J. B. Ireton*, Rajiv I. Modi. *Biochemistry:* Vivienne P. Shortle*. *Biological Anthropology:* Barry R. Alcock, Christopher B. Jarvis, Barrie L. Potter, Christine K. Runnion. *Computer Science:* Susan M. Astley, Anthony F. Bamford, Raymond J. Benitez, Peter P. Cambridge, Paul S. Camina, Richard N. Chang, Cheng Boon Khee, Christopher D. Clack*, Christina E. Davies, David J. Dewey, Christopher Efthymiou, Rachel Harrison, Michael C. Hulton, Susan R. Hutchinson, Kevin G. Jackson, Robert Kirris, Valentino A. Lee, David R. Lester, Kevin A. Lewis, Harry D. MacDonald, Paul W. Matthewson, Colm J. Minogue, Yuko Murayama, Andreas S. Onisiforou, Soo C. Peh, Robert C. Pettit, Michael C. Probert, Bryan C. Pryce, Peter A. Radcliffe, Kevin Richards, John Rosbottom*, Robin A. Rottier, Eric C. Shipton, Suen King Foo, Anthony Wynn-Ruffhead, Yap Weng Yue. *Conservation:* Elizabeth Charter, Heather G. Corrie, Anthony J. Free, Branka C. Hartley, Geoffrey Johnson, Fiona J. Madgwick, Frances Michelmore, David P. Pape, John M. Warburton. *Educational Psychology:* Helen F. Bradley, Lesley A. Cannell, Richard W. Flaxbeard, Mallory N. Heatley, Sarah E. King, Georgina C. Lynas, Mary Plunkett, Janet E. Shepherd, Denise F. Thornton, Claire M. Witkowski. *General and Medical Microbiology:* Muhammad F. Alam, Nancy E. W. Caudill, Ghassan Y. H. A. Hussain, Zainab N. Hussain, Mohammed A. R. A. Morad. *History and Philosophy of Science:* Richard G. Bond, Andrew R. Cross, Jeffrey M. Davis, Christian Jackson, Andrew G. Morgan, Anne R. Nicholson, Ghislaine M. Skinner. *Hydrogeology:* Michael I. Barker, Richard P. Beaven, Andrew K. C. Byatt, Soliman S. El Baruni, Peter J. Hendry, Robinson D. Kafundu, Kyaw Kyaw, Martin A. Perkins, Patricia M. Please, Mohamed A. A. Salam, Ifeanyi C. C. Uchendu, Robert K. D. Van-Ess. *Marine Geology and Geophysics:* Paul G. Bold, Mark R. Brown, Michael S. Fiske, Sara L. Holmes, Lucia Hur, Kuria K. Kairu, Patrick D. J. McVeigh, Ruth M. Manson, Andrew G. Stoner, Nicolaos Voulgaris. *Micropalaeontology:* Ian D. Boomer, Liam T. Gallagher, Clive R. H. Jones, Li Qianyu, Andrew C. Metcalfe, Julie A. Pearce, Mark J. Simmons, Philip J. Smith. *Neurological Science:* Abebech Belai. *Physiology:* Ahmed R. Essop, Uma M. Shahani. *Remote Sensing:* Colin D. Agar, Jacinta Ahindukha, Alan J. A. Betts, Jacob S. Brunner, Anthony C. Cook, Giles F. D'Souza, Nicholas G. Hutchings, Andrew H. W. Jones, Mark C. Mallia, Ian Pilling, Malcolm K. Risby, Madeleine A. G. Spottiswoode, Anthony T. Timms, Andrew D. Trigg. *Social Anthropology:* Paul J. Garwood, Marina Rais. *Statistics:* Michael Norman, Barbara C. Pearce, Jonathan A. C. Sterne*, Nigel D. Wachman. (183)

*Awarded Mark of Distinction
†Awarded 1983-84 but not included in the Annual Report for that year

FACULTY OF ENGINEERING

PhD *Chemical and Biochemical Engineering:* Andrew B. Herbert, Johannes Kloosterman, David Newton, John J. Smith, Wu Ming Yun. *Civil and Municipal Engineering:* Martin R. N. Mowforth, David W. Nelson. *Electronic and Electrical Engineering:* Salah Al-Chalabi, Antonio J. Belfort De Oliveira, Ralph A. Betts, Nickolas

Karavassilis, Stuart A. Kingsley, Yves Martin, Flavio P. Richards, Patrick G. Sheehan, Deepak Uttam, James S. Wilkinson, Joab R. Winkler. *Mechanical Engineering:* John H. Harrison, Andrew M. Wray. *Photogrammetry and Surveying:* Willibald P. Segu. (21)

MPhil *Civil and Municipal Engineering:* Malek Al-Afandi, Pedro R. Higuerey Perez. (2)

MSc *Biochemical Engineering:* Jonathan N. Barnett*, Martyn R. G. Collett*, Carolyn A. Lewis*, Graeme Macaloney, Catherine L. Moore, Derek J. Rae, Paul M. Rogers, Edgardo E. Tulin, Adrian N. Walker. *Ergonomics:* Victoria M. E. Bellotti, Paul K. Buckley†, Yvonne M. Girling, William A. Mackey†, Hazel H. Stevenson. *Information Technology:* Colin M. Boyd, Derek P. Brownjohn, Michael J. Campbell, Cyril A. Chan, John R. Coughlan, John N. M. Darbyshire, Simon P. Dolan, Ewa Gubb, John C. McGuire, Stavroula-Rea Monachou, Karen A. Ponting, Richard O. Pugh, Hilary J. Ramsden, Richard H. J. Schofield, John K. A. Stewart, Mark Williams, Simon Witts. *Marine Engineering:* Maryam Alirezai, Richard P. Cochrane, John R. Davies, Ioannis Douzinas, Andrew J. Fawkes, Mark B. Humble, Gerald J. Kirk, George O. Pachnos, Stuart C. Pointer*, Jeremy P. Richards, Mark A. Robinson, Daniel C. Smith, Sidney A. Snell*, Michael Sotiriadis, Edward K. Stead, John Vavoules, Alaric Waterson. *Microwaves and Modern Optics:* Paul A. Broadhurst, Robert J. Brunt, Robert J. Buxton, Rawel K. Grewal, David I. Jones, Simon F. Luttrell, Paul A. McAllister, David E. McKean, Colin P. McLaren, Francesca Micheli, Margaret A. Moloney, Matthew J. Newlands, Petros Papakonstantinou, Richard J. Sadler*, Lik-Kwan Shark, William P. Wako. *Naval Architecture:* John G. Barton, Paul E. Buckton, Deon Ekermans*, Jonathan H. Kohler, Robert F. Lamerton, Christopher J. Lloyd*, Neil Mounty, Kirsty A. Robertson, Richard J. Tee*, Michael T. Templeman, Gerhard D. Thiart, Kalpathi N. Vaidyanathan, Wilhelmus J. A. M. Van Dinther*, Mark A. Walker, Guy N. Wheeler. *Numerical Methods in Photogrammetry and Surveying:* Ahmed M. Ibrahim, Anthony J. Pilkington, Peter Staniczenko. *Ocean Engineering:* Denis J. Crowley, Walter Hamilton, Graham A. P. Hayward, Michael T. Kelleher, James Kelly*, Joseph Y. T. Kwok, John V. O'Donnell, John K. White, Alan G. Williams, Wu Guoxiong. *Photogrammetry:* Andrew R. Kilbridge, Koo Tsai Kee*, Nicos Roussos, Anant H. Shah. *Surveying:* John V. Arthur, Gareth Davies, Christine L. Hudson, Richard T. Quinson-West, Timothy P. Sellens, Matthew J. Smith, Stephen M. Wright. (102)

*Awarded Mark of Distinction

†Awarded 1983-84 but not included in the Annual Report for that year

FACULTY OF MEDICINE

MD Ali A. Khaleeli. (1)

PhD *Clinical Sciences:* Filipos Mavroskoufis, Colin P. Worman. *Phonetics and Linguistics:* Mark A. Huckvale. *Zoology and Comparative Anatomy:* Carol A. Makin. (4)

MPhil *Clinical Sciences:* Stuart M. MacDonald, Graham D. McPhail. (2)

MSc *Periodontology:* Clement J. W. Goh, Kamari B. M. Zin, Tan Sye Gek*. (3)

*Awarded Mark of Distinction

APPENDIX IV

COLLEGE DIPLOMA AND CERTIFICATE AWARDS

1 OCTOBER 1984 — 30 SEPTEMBER 1985

FACULTY OF ARTS

Diploma in Archive Studies: Joan Bullock-Anderson, Kim Caparne Collis, Elizabeth Ann Finn*, Claire Margaret Harrington, Timothy Charles Harris, Isobel Ruth Humphreys, David Archibald Leitch, Michael Edward Page, Nancy-Jane Rucker, Elizabeth Marianne Scudder, Dorothy Mary Sieber, Robert David Simonson, Andrea Mary Thomas. (13)

Diploma in Economics: Kamaru Amusat Adams, Cynthia Patrice Lowe, Damian-Ramon Maria Melchor Gaspar Baltasar Sanges d'Abadie. (3)

Diploma in Library and Information Studies: David William Alderdice, Penelope Joy Allen-Smith, Karen Donna Ashford, Sandra Claire Bailey, Thelma Jane Barratt, Anne Barrett, Gerald Richard Beasley, Mahrukh Pheroze Bulsara, Alan Edward Coates, Nicholas D'Auvergne Collings, Sarah Jane Dodgson, Carolyn Grace Downs, Eamon Jude Dyas, John Vern Eibner, Jerome Paul Farrell, Laura Feinstein, Zbigniew Gas, Edith Lucy Pitcairn Gildersleeves*, Gillian Rae Goodger, Selladurai Gunasingam, Sally Vivien Harris, Fiona Claire Harrison, Norma Nicola Masriyyeh Hazboun, Angela Margaret Heap, Jane Marie Henderson, Martin Holmes, Katharine Jane Clare Hooper*, Carol Audrey Howarth, Michael Jonathan Hudson, Rajinder Kumar Jassal, Anita Mary Johncock, Nofal Fouad Karkouki, Graham Leslie Keates, Lina Khamis, Patrick Joseph Lambe*, Angela Maria Le Breton, Stephen Anthony Lester, Aref Makooi, Zwelile Foulata Masokoane, Michael Arthur Maumbe, Charlotte Mary Catherine Rose McDonaugh, Gerard Joseph McFall, Nuala Therese Ita McKevitt, Nuala Patricia McSorley, Rita Bernadette Morgan, Jacqueline Anne Redfern, Karen Elizabeth Richardson, Dikeledi Jeanette Setlogelo, Mark Lewis Sheinfield, Khuloud Sukkari, Elizabeth Mary Traynor*, Patricia Florence Wanzala. (52)

Certificate of Proficiency in Elementary Greek: Frances Audrey Welsh*. (1)

Certificate of Proficiency in Elementary Latin: Angela Joan Kendell, Kit Fun Beatrice Benedict Leung. (2)

Certificate of Proficiency in Phonetics: Elena Del Arco, Annette Dönch, Lore Marguerite Fry, Brigitte Gimat, Anastasia Miltiades Goulandris, Yoko Honda, Eileen Isarov, Yoshihide Kuma, Annie Malville, William Millis, Margaret Ruth Mitchell, Maria Luzmila Sagastegui, Rosalind Frances Tricker, Sau Leng Wong, Yu Mahn-Gunn, Akemi Yuki. (16)

*Awarded with Distinction

FACULTY OF SCIENCE

Diploma in Computer Science: Christopher Howard Hufford. (1)

Diploma in Conservation: Elizabeth Charter, Heather Gale Corrie, Mamadou Mana Diakite, Anthony John Free, Branka Cebin Hartley, Adirahman Abdillahi Jimaleh, Geoffrey Johnson, Fiona Jane Madgwick, Frances Michelmore, David Plackett Pape, John Martin Warburton. (11)

Diploma in General and Medical Microbiology: Muhammad Faridul Alam, Nancy Elizabeth Willsi Caudill, Ghassan Y. H. Abbas Hussain, Zainab Nasreen Hussain, Mohammed Abbass Rida Ali Morad, Ragini Patel. (6)

Diploma in Hydrogeology: Michael Ian Barker, Richard Paul Beaven, Andrew Keir Campbell Byatt, Colin Scott Cheney, Soliman Salah El Baruni, Peter John Hendry, Hilal El Fadil Ahmed Hilal, Robinson Daimoni Kafundu, Kyaw Kyaw, Martin Alan Perkins†, Patricia Margaret Please, Mohamed Ali Abdel Salam, Ifeanyi Chris Chukwuemeka Uchendu, Robert Kweku Dadson Van-Ess. (14)

Diploma in Micropalaeontology: Ian Desmond Boomer, Liam Thomas Gallagher, Clive Ronald Hugh Jones, Li Qianyu, Andrew Crawford Metcalfe, Julie Anne Pearce, Mark John Simmons, Philip John Smith. (8)

Diploma in Statistics: Saifudin Dawoodbhai, Andrew Peter Foley, Anthony John Onwuegbuzie*. (3)

*Awarded with Distinction
†Awarded in 1982-83 but not included in the Annual Report for that year

FACULTY OF ENGINEERING

Diploma in Biochemical Engineering: Jomo Appolus, Jonathan Neal Barnett*, Iain Clenahan, Andrew Richard Cockshott*, Martyn Robert Glen Collett*, Philip John David, Major John Bernard Ireton*, Carolyn Anne Lewis*, Graeme Macaloney, Rajiv Indravadan Modi, Catherine Lucy Moore, Derek Johnstone Rae, Paul Melville Rogers, Edgardo E. Tulin, Adrian Nicholas Walker. (15)

Diploma in Chemical Engineering: Terence Vincent Leeworthy*, Brian Ian Raymond White. (2)

Diploma in Information Technology: Colin Maclean Boyd, Derek Paul Brownjohn, Michael John Campbell, Cyril Alex Chan, John Robert Coughlan, John Nigel Martin Darbyshire, Simon Patrick Dolan, Ewa Gubb, John Charles Mcguire, Stavroula-Rea Monachou, Karen Ann Ponting, Richard Owen Pugh, Hilary Jane Ramsden, Richard Henry Jocelyn Schofield, John Kenneth Alexander Stewart, Mark Williams, Simon Witts. (17)

Diploma in Marine Engineering: Maryam Alirezai, Richard Philip Cochrane, John Richard Davies, Ioannis Douzinas, Andrew John Fawkes, Mark Bryant Humble, Gerald Johnson Kirk, George Othon Pachnos, Stuart Craig Pointer*, Jeremy Paul Richards, Mark Anthony Robinson, Daniel Christopher Smith, Sidney Antony Snell*, Michael Sotiriadis, Edward Keith Stead, John Vavoules, Alaric Waterson. (17)

Diploma in Microwave Engineering: Paul Antony Broadhurst, Robert John Brunt, Robert John Buxton, Jacques Marie Jean De Raigniac, Rawel Kaur Grewal, David Ian Jones, Vincent Lavender, Simon Frances Luttrell, Jean Philippe Martin, Paul Anthony McAllister, David Edward McKean, Colin Peter McLaren, Francesca Micheli, Margaret Ann Moloney, Matthew James Newlands, Petros Papakonstantinou, Richard John Sadler*, Lik-Kwan Shark, William Phillip Wako. (19)

Diploma in Naval Architecture: John Gillbe Barton, Paul Ernest Buckton, Deon Ekermans*, Jonathan Hugh Kohler, Robert Francis Lamerton, Christopher John Lloyd*, Neil Mounty, Kirsty Anne Robertson, Richard John Tee*, Michael Thornley Templeman, Gerhard Daniel Thiart, Kalpathi Narasimhan Vaidyanathan, Wilhelmus Johannes Antonius Maria Van Dinther*, Mark Alexander Walker, Guy Nicholas Wheeler. (15)

Diploma in Ocean Engineering: Denis James Crowley, Walter Hamilton, Graham Arthur Paul Hayward, Michael Timothy Kelleher, James Kelly*, Joseph Yiu Tong Kwok, John Vincent O'Donnell, John Kieran White, Alan Gwilliam Williams, Wu Guoxiong. (10)

Diploma in Photogrammetry: Mohd Jamil Bin Haji Mohd Ali, Shea Yu Kai, Soeta'at, David Bryn Wilkins*, Phillip Peter Wilson, Ruth Jane Yearly*. (6)

Diploma in Surveying: Vanessa Sian Clapton*, Jon Davies*, Jonathan Mark Gaunt*, Malcolm Peter Havercroft, Alan Richard Knight*, Lee Li Chuan, Ian Charles Martin, Mok Chi Ming, Alan David Price*, David Francis Prosser, Guy Nicholas Pullen*, Jane Tarran, Alan Ronald Hamilton Turcan, Andrew Paul Wilson*. (14)

*Awarded with Distinction

FACULTY OF ENVIRONMENTAL STUDIES

Diploma in Architecture: Giuseppe Boscherini, Alistair Philip Brierley, Timothy John Brittain-Catlin, Roderick Nicholas Brown, James Timothy Colquhoun, Caroline Margaret Pury Cust, Neil John De Prez, Nicola Jane Edmonds, Philippe Leon Faure, Helen Forty, David Ingram French, Gan Eng Ying, Mark Thomas Gorgolewski, Christopher Kenneth William Griffiths, Norzaiha Hamzah, Ivan William Harbour, Alistair William Dickason Jones, Sian Sara Vivienne Jones, Joanna Alicja Kaliniecka Mahboob Khan, Kurt-Wolfgang Kuchler, Jennifer Ming-Yen Lee, Anne-Nicole Claire Leonard, Ernest Tamabang Mofor, Paul Andrew Nicholson, Jenifer Mary Smith, John Vincent Southall, Alain Vincent Speed, Brian Gerard Timmoney, Peter Joseph Tracey, Ivan Tsao, Juliet Nicola Wood. (32)

Certificate in Development Planning: Nefissah Abdurahman, Bodour Osman Abu Affan, Md. Saghir Ahmad, Fahed Khamis Al-Anezi, Mohamed Sultan Alarfag, Abdullah Mohammed Al-Arfaj, Al-Sayed Saeed A. Al-Awami, Abdul Aziz Dawood Al-Drainish, Bander Abdullah Nasser Al-Farhan, Abdulla Al-Garni, Zaitoun Al-Khaldi, Abdulaziz Alkhedheiri, Saleh A. Al-Meiman, Bader Al Raja, Ebaidallah R. Al-Salhi, Wajeeh Al-Shakhes, Saad Al-Talhi, Faisal Al-Thani, Ahmed Abdullah Al-Towaijri, Saleh Hamed Altraif, Othman Ibrahim Al-Washmi, Naheed Aziz, Ali Ibrahim Babaier, Dev Anand Balloo, Tai-Ming Ben, Luis Henrique Beust, Avnish Kumar Bhatia, Che Kamarulzaman, Jane Bosire, Mehendra Kumar Nilkanthrai Buch, Abdul Aziz Bu Hulaigah, Bor-Yea Chen, Dukkyu Cho, Bhavanarayana Dasari, Maria Nuria De Cesaris Mas, Compton Jerimiah Dick, Purnendu Dutta, Abdullah Eid, Margaret Tinwke Erinle, Lal Hminglianan Fanai, Norma Fodul, Maria Amelia Fort, Khaja Hasan Gafoor, Sabo Fagge Garba, Jehu Gwani, Wafaa Ahmed Abdalla Hammad, Mohammed Senick Hannif, Abdul Mohammed Haris, Ahm Sadiqul Hoque, Chih-Chien Hsu, Mohammed Ibrahem Humaidi, Abdi Mohamed Jama, Alexa Jengich, Cyrus Kamau Kahuki, Mishi Masika Karisa, Arumugham Chettiar Kasturi Rangan, Murli Dhar Kaurani, Hidaya Khairi-Dajani, Fazal Khan, Rose Eunice Kitomari, Jin Bong Kwon, Jai Yeong Lee, Juan Carlos Leon, Meena Mahajan, Pranab Kumar Maity, Ahmed-M Mashhour, George Jason Mbuthia, Diana Isabel Medrano, Sadhan Kumar Mukherji, Julius Frank Musonda, Patrick Mande Mwenya, Mohammad Nabulsi, Darshan Ram Nafri, Prakash Narayan, Sookdeo Nathoo, Ana Paula de Sousa Nimpuno-Parente, Roghia Hamza Osman, Kesava Dev Padmanabhan, Bambang Panudju, Krishan Kant Paul, Karthedath Joseph Philip, Satyarthini Sujatha Rangayya, Ravindra Prakash Rastogi, Sirisoma Rubasinghe, Ruth Ruiz, Ramesh Sabhani, A. N. Sachithanandam, Amelia Lorenzana Sayo, Shri Nuruzzaman Muzammil Ali, Sahal Sonbol, Bharat Kumar Soni, Cummaya Velandy Sreenivasan, Rajendram Chackravarti Srinivasan, Annapa Sri Rami Reddy, Hiyare Pallege Susiripala, Panchapakesan Swaminathan, Salem Taki, Ethu Rajulu Reddy Vijayan, Suwardjoko Warpani. (100)

Diploma in Development Planning: Ian Conrad Oluseyi Audifferen, Leslie Baptiste, Colbert Albert Chakufa, Solomon Tizhe Garta, Maggie Goto, Ihsan Can Kestelli, Nitaya Kosonkarnjana, Zubairu Mohammed Maidawa, Christoph Peter Marbach, Joe Mark, Arthur Ngigi Ndungu, Christopher Nnamdi Ogeah, Carey Zachariah Murianyi Ojowi, Benedict Onyeche, Koullis Pittaros, Farzaneh Vatani, Amilton Vergara De Souza, Phuntsho Wangdi, Hewa Munasinghe Wijayasiri. (19)

Pre-Diploma Certificate in Architecture: John Christopher Alexander, Simon Allford, Michael Almond, Jane Glindon Bacon, Karin Nagel Berger De Nowalski, George Martin Brennan, Charles Mark Trafford Brice, Roderick Nicholas Brown, James Timothy Colquhoun, Caroline Margaret Pury Cust, Neil John De Prez, Brynley James Dyer, Joy Marie Flanagan, Helen Forty, Gan Eng Ying, Mark Thomas Gorgolewski, Jonathan James Hall, Norzaiha Hamzah, Ivan William Harbour, Sian Sara Vivienne Jones, Anne-Nicole Claire Leonard, Ka Fung Alan Li, Ernest Tamabang Mofor, Paul Raymond Monaghan, Peter Charles Robert Morris, Kok Aun Ng, Terence Donald Plant, Alexander Basil Rebanks, Alain Vincent Speed, Joseph Tan Meng Hooi, Andrew Robert Taylor, Victoria Tong Wai Chee, Peter Joseph Tracey, John Patrick Ward, Patrick David Wilson, Polly Wong Wan Pui, Juliet Nicola Wood. (37)

APPENDIX V

SCHOLARSHIPS, STUDENTSHIPS AND PRIZES
COLLEGE AND UNIVERSITY AWARDS

COLLEGE AWARDS

Eleanor Allen Prize (Political Economy)—D. J. Goddon.
Charlotte Ashby Prize (Laws)—Fiona Croxon.
Atchison Scholarships (Clinical Sciences)—C. Gelder, J. Higham.
Atchison Exhibitions (Clinical Sciences)—D. Holdright, G. J. Cox.
Barlow Prize (Electronic and Electrical Engineering)—J. R. Winkler.
Sir Herbert Henry Bartlett Scholarships (Architecture)—J. J. Hall, J. A. A. Khan, C. Hopley.
Herbert Batsford Prize (Architecture)—Caroline Gammon.
Thomas Witherden Batt Scholarships (Science)—J. R. Walton, A. C. H. Glasse.
Leonard Bayliss Memorial Prize (Physiology)—L. Lagnado.
Bayliss-Starling Memorial Scholarship (Physiology)—Gwen O. Robinson.
Francis Perch Bedford Prize (Zoology)—A. Smart.
Philip Seth Belasco Prize in Medicine—M. O'Donoghue.
Boise Scholarships (Fine Art)—Katherine J. Bush, J. N. Cook, G. Hughes, M. B. N. Ingham, P. G. Kenny, H. W. McKinney, K. J. Maycock, J. R. O'Rorke, Amanda K. Rabey, Suzanne L. Riddoch, Caroline A. Saunders, M. H. Steene, D. Whatmuff.
Bonney Prize (Geology)—P. D. Ballantyne.
R. E. Bradbury Memorial Prize (Anthropology)—K. E. Goaman.
Broderick-Parry Prize (Geography)—R. T. Kitching.
'Building' Prizes (Architecture)—R. Constable, J. Newsome.
Burhop Prize (Physics)—S. K. White.
Rodney Burn Prize (Fine Art)—R. Brooks.
A. J. L. Cahill Memorial Prize (Political Economy)—I. A. Daniels.
Margaret Elizabeth Dale Cast Prize (History)—D. P. Tuck.
Chadwick Certificate and Prize (Civil Engineering)—M. S. Wu.
Lucy Chaplin Memorial Prize (Clinical Sciences)—F. Baber.
Cheng Tien-Hsi Prize (Laws)—Lee Cheng.
Churchill-Jenkinson Prize (Archive Studies)—E. A. Finn.
Antonio Cippico Medal and Prize (Italian)—Loredana Paris.
Lillian Clarke Prize (Botany and Microbiology)—A. Gann.
Clinton Prize (Electrical Engineering)—A. R. Lingard.
Cowley Prizes (Library and Information Studies)—Mary T. J. Webber, Alison Bailey, Clare C. A. Powne.
Dawes Hicks Postgraduate Scholarship in Philosophy—S. Evnine.
Deans Scholarships—Llyn Smith, Nancy Gough, Rohan Bastin.
Dental Anatomy Prize—K. L. Hotson, R. Pathmanathan.
Dental Orthodontics and Paedodontics Prize—J.M. Cameron.
Dental Pathology and Microbiology Prize—R. N. Shadwell, C. E. Taggart.
Dental Pharmacology and Therapeutics Prizes—H. S. Kooner, D. M. Pledger, M. Kapoor.
Dental Prize for Human Diseases—K. R. Jones, M. J. Twitchen.
Dental Surgery Prize—C. D. Hunt, R. Millett.
Dental Technology Prizes (Clinical Sciences)—M. J. Twitchen, P. M. Carr, D. M. Townsend.

Cyril De Vere Green Award (Dentistry)—S. C. Taylor.
Donaldson Medal (Architecture)—D. McLaren.
Dunn and Wilson Awards (Library and Information Studies)—I. C. Thorold, Fateme Keshavarz.
Geoffrey Duveen Prize in Oto-Rhino-Laryngology—P. Godfrey-Faussett, M. Telfer.
Early English Text Society's Prize—Joanna Lodge.
Elliot-Blake Studentships—P. Julu, Inez Santisteban, Sara Hennessy.
Filliter Elective Period Award (Clinical Sciences)—J. Rose, M. Zachau.
Filliter Exhibition in Pathology—M. Ven Schoenbergz, M. Telfer.
Richard Fitzgerald Prize (Laws)—A. Robinson.
Flemming Elective Period Awards (Clinical Sciences)—S. Gibbs, K. Mayo, A. Newton, J. Vince, M. S. Chong.
Sir Banister Fletcher Prize and Medal (Architecture)—G. Boscherini.
Daryll Forde Award (Anthropology)—W. P. Williams.
Carey Foster Research Prize (Physics)—G. Drinkwater, P. A. Jerram.
Goldsmid Elective Period Awards (Clinical Sciences)—B. Werby, J. Gilder, K. Grainger, T. Pickett, I. Reeve, B. Watson.
Edith Goodyear Prize (Geology)—S. S. Gornall.
William Grossman Prize in Orthodontics—K. H. Garber.
Eva Grunwald Memorial Prize (French)—Jacqueline A. Smith.
Paul Hass Studentship (Biochemistry)—Caroline A. Austin.
Violet Hall Prize (French)—Eva-Maria Slimak, Kate Miles.
Halley Prize (Astronomy)—I. P. Griffin.
Bernard Hart Prize (Clinical Sciences)—K. Grady.
Hart Prize (Photogrammetry)—D. B. Wilkins.
Hart Prize (Surveying)—A. D. Price.
Archibald P. Head Memorial Medal and Prize (Mechanical Engineering)—W. K. Chee.
Henriques Scholarship (Fine Art)—Jutta Gloeckner.
Herschel Prize (Astronomy)—I. R. Stevens.
Elsie Hitchcock Prize (English)—A. Tootill.
John Oliver Hobbes Memorial Scholarship in Modern English Literature—R. A. Bradbury.
Hollier Scholarship in Greek—G. Owens.
R. B. Hounsfield Prize in Town Planning and Civic Engineering—Gilletta Cheng, Ionna Melaki.
R. B. Hounsfield Prize in Traffic Engineering—V. Jones.
R. B. Hounsfield Scholarship in Traffic Engineering—G. P. Scholefield.
Hotline Exhibition (Photogrammetry and Surveying)—A. R. Knight.
Joseph Hume Scholarship in Law—Mary Moriarty, Catherine Colston.
Huntingdon Research Centre Prize (Histology Part I—Medical Sciences)—G. T. J. Prior, Helen L. Robshaw.
Hurst Prize in English Law—Elizabeth Johnson.
Joel Hurstfield Prize (History)—P. L. J. Finnemore.
ICI Prize (Second Prize in Anatomy—Part I)—M. Petrou.
ICI Pharmaceuticals Division Elective Period Awards (Clinical Sciences)—A. Curl, C. Feuchtwang, S. Manning, M. Socolovsky.
Institution of Civil Engineers Prize—D. Mirfendereski.
Institution of Electrical Engineers Prize—P. J. Parlett.
Institution of Mechanical Engineers Prize—M. E. Middleton.
Jackson Lewis Scholarships—Orlagh Mulcahy, Lesley Beaumont.
Jolowicz Prize (Laws)—Alyson Young.
Rhianon Jones Memorial Prize (English)—Joanne Briscoe.

Ker Memorial Prize (English)—D. Rainsford.
Kestelman Prize (Mathematics)—S. J. Parkinson.
Kitson Prize (Chemical and Biochemical Engineering)—Angela J. Brazier.
Dr R. Kohn Prize (Physiology Part I—Medical Sciences)—R. Jane Burch, C. A. Smith.
Richard Laitner Memorial Fund Elective Period Awards (Clinical Sciences)—C. McLelland, A. J. Nicholls, A. J. B. Clark, F. Tees, P. Wright.
Sir Thomas Lewis Memorial Prize (Clinical Sciences)—I. Grove.
Library and Information Studies Exhibitions—E. Ebden, M. Flajsner.
Liston Gold Medal Prize for Surgery—C. Gelder, F. Baber.
Sydney Long Prize in Surgery—D. Ross, A. Sakellarion, G. Owens, M. Bitner-Glindzicz, P. O'Keefe.
Sir John Macalister Medal (Library and Information Studies)—E. L. P. Gildersleeves.
Magrath Scholarship and Fellowes Gold Medal Prize—R. Hawkins, D. Turbin, M. O'Donoghue, G. J. Cox, J. Stephenson.
Betty Malcolm Scholarship (Fine Art)—Carmen Holender.
H. S. W. Massey Research Prize (Astronomy)—R. K. Prinja, T. J. Batt.
Maxwell Law Prize—D. Mendelsohn.
Mead Scholarships in Geography—Monika Wolf.
Medical Sciences Bursaries Fund Scholarships—N. D. Jones, Sarah Worsfold.
Merck Sharp and Dohme Ltd Prize (Biochemistry Part I—Medical Sciences)—Catherine L. Platt.
Merck Sharp and Dohme Ltd Prize (Genetics Part II—Medical Sciences)—Z. T. Bhanji.
Sir William Meyer Prize (Geography)—C. L. A. Havilland.
Sir William Meyer Prize (History)—P. A. Drain.
Sir William Meyer Essay Prize (Geography)—R. T. Kitching, H. M. Tucker.
Sir William Meyer Travelling Studentships (History)—T. Armstrong, D. M. Dean, Alice M. Gould, Clare F. Hartland, A. P. Manley, Shirley A. G. MItchell, Sally Orwin, Mathew P. Thomson.
Momber Scholarships in Science—R. Aitken, Sara Hennessy.
Cecily de Monchaux Memorial Prize (Psychology)—Verity Brown.
Morley Medal and Prize (Modern English Literature)—A. Bradbury.
Morris Prize (Geology)—A. J. Du Toit, W. K. Campbell.
H. B. Murray Memorial Prize (Clinical Sciences)—J. R. D. Moiseiwitsch, S. J. Creasey.
Margaret Murray Prize in Egyptology—Rowena Webb.
Melvill Nettleship Prize for Figure Composition—Belinda Hale.
Ronald Nyholm Prize (Chemistry)—M. S. B. Felix.
Catherine Maude Pearce Scholarship for Senior Women Students—Mary S. Moriarty.
Perren Studentships (Astronomy)—D. J. Monk.
Platt Prizes (Greek)—Neil Campbell-Briggs, Sarah Halsey.
Harry Poole Prize (Chemistry)—Deborah C. McGuchan.
Postgate Prize (Classical Philology)—Harriet Graham.
Prankerd-Jones Fund Elective Period Awards (Clinical Sciences)—G. Battle, P. Gray, D. Werner, J. Winchester, A. Curl, C. Feuchtwang, D. P. Clarke, J. L. Davies, M. Correia Ribeiro, I. R. W. Groves, S. Manning, J. Poole, D. Rea, R. Scully.
Prankerd-Jones Memorial Prize in Fine Art—Alison Jones.
Prankerd-Jones Memorial Prize in Immunology—Nicole Blackwell.
Prankerd-Jones Memorial Prize—Project—Part II Examination—Ruth M. Howlett, P. Sharma.
Quain English Essay Prize—A. Tootill.
Ramsay Memorial Medal (Chemistry)—G. P. Proud.
Mary Rischgitz Prize (Fine Art)—Julie Forrester.

F. T. Roberts and Magrath Prize in Obstetrics and Gynaecology—P. Kallis, P. Walters.
Graham Robertson Travelling Scholarships (Fine Art)—N. Swift, Sandra Casey.
Fitzroy Robinson Drawing Prizes (Architecture)—G. Boscherini, P. Hull.
Rosenheim Elective Period Awards (Clinical Sciences)—M. Binks, A. Ellington, A. J. Lewis, G. Fleet, M. Attias, G. Hillman, A. Ballinger, J. Barnard, A. J. B. Clark, C. Etherington, E. Finch, P. Glassman, G. Gui, C. Hecker, E. Holder, R. Jenkins, S. Lock, L. Penna, D. Ross, M. J. Seckl, F. Sanders, M. Shaw, J. Smalldridge, M. Socolovsky, N. J. Wainwright, H. S. Wasan, S. Whiting, K. H. Wilson, M. Zachay.
Robert Ross Scholarship in Fine Art—S. Patel.
L. M. Rothschild Scholarship in French—M. Screech.
Scher Essay Prize (Clinical Sciences)—R. Millet, S. C. Taylor, C. N. Temple.
Slade Prize (Fine Art)—H. Kondracki.
Slade Scholarships (Fine Art)—Orlagh Malcahy, Jane Garland, Alexander Schwarzer.
Franz Sondheimer Bursaries (Chemistry)—Kate E. Baldwin, P. S. Gregory, A. Tsotinis.
Franz Sondheimer Prize (Chemistry)—S. M. Fortt.
Stevenson Prize (Applied Mathematics)—N. C. Carr.
Steer Medal and Prize (Fine Art)—Alexandra Schwarzer.
Suckling Prize in Obstetrics and Gynaecology—P. M. Jensen.
Sully Scholarship (Psychology)—Serena Dilnot, Deborah Christine.
Sir Andrew Taylor Prize in Architecture—Nicola Edmonds, P. Faure-Eiffel.
Sir Andrew Taylor Prize in Fine Art—H. Moore.
CAR Tayler Prize (Physics and Astronomy)—R. G. Davey.
J. A. C. Thomas Scholarship (Laws)—N. Lickley.
J. A. C. Thomas Mooting Prize (Laws)—Jonathan Clore.
Henry Tonks Prize (Fine Art)—Patricia A. Gardner.
Townsend Viking Society Prize (Scandinavian Studies)—D. Baker.
Troughton Scholarship—Mary S. Moriarty.
Tuffnell Scholarships (Chemistry)—A. G. Neville, J. M. Doherty, A. R. H. Goodwin.
Tuke Prize for Chemical Pathology—S. Moss.
Tuke Prize for Medical Microbiology—J. Tyebkhan.
A. J. V. Underwood Exhibition (Chemical and Biochemical Engineering)—S. A. M. Gardiner.
L. F. Vernon-Harcourt Prize (Civil Engineering)—E. T-W. Sit.
F. M. R. Walshe Prize (Clinical Sciences)—A. Tourney.
Ellen Watson Memorial Scholarship in Applid Mathematics—P.M. Wright.
Webber Prize (Laws)—M. Kirsh, Dominique Garland.
Dr Christopher Whiteside Awards (Clinical Science)—Jacqueline S. Porter, G. Fleet, Shirley A. Curry, Fiona Cowie, Anne Bloxham, Karen Finlay, T. Gillow, N. G. Wainwright, Carole Brewer, S. H. Ting, T. H. Nayani.
Dr D. T. Whittet Prize (Pharmacology Part II—Medical Sciences)—Susan G. Griffith.
Audrey Wykeham Prize (Fine Art)—Rebecca Price.
T. C. Yu Elective Period Awards—D. P. Macleod, J. Cheetham, R. Webb, T. Isitt, G. Kirby, Z. Amin, A. Helnyk, G. Rose, A. Green, F. Karet, Li Yen Lee, S. Madge, A. Mayor, T. Nayani, A. Ng, A. Plane, J. Simpson, F. Tees, P. Wright.

FACULTY MEDALS AND PRIZES

Engineering: Goldsmid Medal and Prize—P. J. Parlett.
Environmental Studies: Medal and Prize—Mary Whittaker.
Laws: Andrews Medal and Prize—D. Mendelsohn.
Medical Sciences: Medal and Prize—Nicole A. M. Blackwell.
Science: Medals and Prizes—S. K. White, A. A. Gann.

SESSIONAL PRIZES

Anthropology: Rosa Morison Prize—C. Thomas. *M. G. Smith Prize*—E. A. Harrison, Demetra Arapakos.
English: Campbell Clarke Scholarships—W. Humphreys-Jones. *Ifor Evans Prize*—S. Wordsworth. *West Scholarship*—Mary Francis.
Fine Art: Coldstream Prize—Kay Vinson. *Monnington Prize*—K. Manwaring.
French: Rosa Morison Prizes—Julia Dunk, Jane Kalyanvala, Jane Phillips.
Geography: College Prize—A. J. Crowhurst. *H. C. Darby Prize*—R. J. Hibbert. *Maconochie Prize*—D. R. Childs. *1903 Prize*—C. M. L. Fell.
German: Robertson Prize—Caroline Andrew. *Willoughby Prize*—Heidi Murphy.
Greek: Long Prize—Jane Stuart-Smith. *Webster Prize*—Anne-Marie Florence.
History: Alfred Cobban Prize—Claire S. Gray. *Dolley Prize*—M. P. Thomson. *West Prize*—M. D. Dixon. *Pollard Prize*—Sally H. Tottle.
History of Art: Gombrich Prize—Melanie Brewer, R. Harris. *Whittkower Prize*—Carole Conrad.
Italian: Sir Anthony Panizzi Prize—Malgorzata Orwat.
Latin: Key Prize—M. Brady. *Sessional Prize*—Sarah Williams.
Philosophy: Dawes Hicks Scholarships—Cheryl Aldridge, A. Morley.
Phonetics and Linguistics: Harold E. Palmer Prize—M. Berry. *Alexander Melville Bell Prize*—Alison Murray. *Goldman-Eisher Prize*—C. J. Hugh. *D. B. Fry Prize*—Ann Dalton.
Political Economy: G. C. Allen Prize—L. M. Phillips. *Hume-Lloyd Scholarships—P. D. Amison, E. McGreevy, M. S. Tickle. Sessional Prize*—M. Georgiades.
Scandinavian Studies: Rosa Morison Prize—Sophie Dormandy.
Spanish and Latin American Studies: Alcala Galiano Prize—Susan Winter. *A. A. Parker Prize*—Maria Iglesias.
Laws: Andrews Prizes—Elizabeth Johnson, N. Robinson, D. Scott, J. Campion, I. Harvey-Samuel.
Architecture: Bartlett Prizes—D. Hancock, A. Pinchuck, R. Constable.
Anatomy and Embryology: N. A. Barnicot Prize—Lorriane Albon.
Biochemistry: Jack Drummond Prize—Carol A. Green. *Plimmer Prize*—N. F. Brown.
Botany and Microbiology: Darwin Prize—Anne Hurst. *Huxley Prize in Biology*—Y. A. Henry.
Chemistry: C. K. Ingold Prizes—J. Jenkins, Susan M. Trevellick, C. A. Wilson.
Computer Sciences: Sessional Prizes—S. M. Walton, I. A. Tidder, M. J. Chesworth, Wai Yee W. Pun.
Genetics and Biometry: Genetics and Biometry Prize—E. Ben-Simon.
Geology: Chubb Prize—D. J. Harrison. *Hollingworth Prize*—A. Maxwell.
Mathematics: Filon Prize—S. J. Parkinson. *Hill Prize*—D. A. Morgan. *Jeffery Prize*—K. M. Reddington.
Pharmacology: H. O. Schild Prize—S. W. Lui, K. N. Gilkes.

Physics and Astronomy: William Bragg Prize—R. S. Lipscombe. *Huggins Prize*—K. C. Smith. *Oliver Lodge Prize*—N. Burgess. *Wood Prize*—P. Duncan, C. P. Howarth, R. M. Sturley.

Physiology: Sanderson Prize—Anne-Marie Clemence.

Psychology: McDougall Prize—N. S. Gray. *Spearman Prize*—F. F. Clarke.

Statistical Science: Egon Pearson Prize—C. K. Chan.

Zoology: Zoology Prizes—Lee White, J. Beauchamp.

Chemical and Biochemical Engineering: Goldsmid Prizes—G. B. Kyne, A. C. Rayner, Siu Ching Yeung.

Civil and Municipal Engineering: Goldsmid Prizes—K. Y. Choi, R. J. Hanbury, H. Kamyab.

Electronic and Electrical Engineering: Goldsmid Prizes—S. C. Chuang, M. A. Lim, K. A. Ridgway, S. L. Stroud.

Mechanical Engineering: Goldsmid Prizes—P. C.-H. Cheng, A. N. Hebbron, L. R. Jarvis.

Medical Courses—Part I Examination: Drummond Prize in Biochemistry—N. Hoveyda. *Glaxo Prize for Best Aggregate Performance in Part I*—Catherine L. Platt. *ICI Prize in Physiology*—R. Tansley. *Smith Kline and French Laboratories Limited Prize in Anatomy*—Louisa J. Badcock, Catherine L. Platt.

Medical Courses—Part II Examination: Behavioural Sciences Prize—Sara M. Foreman. *Cluff Prize in Physiology*—W. Wang Ee Jen, Susan G. Griffith. *Cuxson Gerrard Prize in Pharmacology*—W. Wang Ee Jen. *Drummond Prize in Biochemistry*—Jennifer Wylie. *Elga Prize in General Pathology*—W. Wang Ee Jen. *Wellcome Prize in Human Biology*—Helga A. Brown. *Wyeth Prize for Best Aggregate Performance in Part II*—W. Wang Ee Jen. *Project Prizes*—Sara E. Hoffbrand, N. D. Jones, A. C. Ionides, Claire M. Feeney.

Second Examination in Dental Surgery: Anatomy Prize—Erika A. Koundouros. *Biochemistry Prize*—N. T. Ali. *Physiology Prize*—K. J. Harvey. *Best Aggregate Performance Prize*—Pia S. A. Wickramsinghe.

UNIVERSITY POSTGRADUATE AWARDS

Neil Arnott Prize in Chemistry: Anthony Grange Neville. *Jethro Bithell Prize:* Manuela Yeandle. *Gerstenberg Prize in Economics:* Douglas John Godden. *Sherbrooke Prize in Mathematics:* Christopher Michael Turner. *University Postgraduate Studentships:* Iphigenia Antoniou (Chemical Engineering) Christina Dockx (Dutch).

APPENDIX VI

BENEFACTIONS, DONATIONS, RESEARCH GRANTS AND CONTRACTS

The College Committee makes grateful acknowledgement of the following:

AGRICULTURAL AND FOOD RESEARCH COUNCIL

£26,142 and £15,487 for the Department of Clinical Pharmacology for the study of the effect of industrial and domestic processing of food on the ability of normal diets to alter the metabolism of toxic compounds.

ANNA FREUD FOUNDATION

US $6,000 for the Department of Psychology for the study of the application of psychoanalytic principles to the management of juvenile onset type 1.

ARTHRITIS AND RHEUMATISM COUNCIL

(1) £19,062 for the Department of Experimental Pathology for the study of the relationship between receptor activation and inositol lipid metabolism in rat mast cells.

(2) £17,029 for the Department of Medicine for the production and analysis of human monoclonal anti-poly (ADP-Ribose) antibodies.

(3) £22,020 for the Department of Medicine for analyses of the role of anti-DNA antibody idiotypes in autoimmune disease.

(4) £15,180 for the Department of Medicine for the secretarial support of Rheumatic Disease Research.

(5) £30,783 for the Department of Physiology for a study of the anti-inflammatory activity of nerve growth factor.

ASSOCIATION FOR INTERNATIONAL CANCER RESEARCH

(1) £24,000 for the Department of Biochemical Pathology for the studyof the use of quantitative image analysis in the study of cell genealogies.

(2) £16,995 for the Department of Biochemical Pathology for further research into microautoscintography of cell in monolayer culture.

(3) £4,250 for the Department of Biochemical Pathology for the study of herpes virus genome.

(4) £3,000 for the Department of Biochemical Pathology for cancer research.

(5) £800 for the Department of Botany and Microbiology for the study of mutagenesis.

ASTHMA RESEARCH COUNCIL

£18,484 for the Department of Chemistry for the study of the morphological, biochemical and pharmacological properties of human pulmonary mast cells and the effect of anti-asthmatic drugs etc. therein.

BRITISH ACADEMY

£43,100 for the Department of Greek: the 1984-86 grants for the Oxyrhynchus Papyri project.

BRITISH DIABETIC ASSOCIATION

£42,236 for the Department of Paediatrics for an investigation of the molecular basis of glucose transport at the blood-brain barrier.

BRITISH HEART FOUNDATION

(1) £29,000 for the Department of Anatomy and Embryology for the investigation of the structure and function of intrinsic cardiac neurones.

(2) £23,179 for the Department of Biochemistry for an investigation of the reversible sequestration of adenine nucleotides in rat heart.

(3) £20,684 for the Department of Community Medicine for the study of the risk factors for coronary heart disease among Asian Muslims and whites in East London.

(4) £18,929 for the Department of Community Medicine for the implementation of relaxation techniques using G.P. Structure of the MRC Mild Hypertension Trial (Phase 2) in the maintenance of lower blood pressure.

(5) £18,393 for the Department of Physiology for the study of the regulation of energy supply during systole and diastole in the heart.

BRITISH LIBRARY

(1) £13,700 and £6,950 for the Department of Computer Science for a feasibility study in Information Technology.

(2) £12,000 for the Department of Computer Science for The Electronic Document.

BRITISH PETROLEUM COMPANY LIMITED

£4,000 for the Department of Chemical and Biochemical Engineering for combustion studies.

BRITISH RAIL

£30,000 for the Department of Civil and Municipal Engineering for research on journey speeds in conurbation.

BRITISH TELECOM RESEARCH LABORATORIES

£7,000 for the Department of Electronic and Electrical Engineering for further research in the area of optical bistability.

CANCER RESEARCH CAMPAIGN

(1) £14,479 for the Department of Anatomy and Embryology for "Muscle differentiation: the role of cicosanoids in the transition of the proliferating myoblast to the non-dividing differentiating myotube".

(2) £77,710 for the Department of Biochemistry for the structure and expression and control of genes coding for cytochromes P-450.

(3) £12,299 for the Department of Botany and Microbiology for the use of temperature sensitive mammalian cell mutants to investigate cell cycle control.

(4) £13,334 for the Department of Genetics and Biometry for the study of oncogene activation in familial polypasis coli.

(5) £12,750 for the Department of Histopathology for a study of the early stages of extra-nodal lymphomas using techniques of genetic analysis.

(6) £3,669 for the Department of Surgery for the study of lipid metabolism in experimental colon cancer and the effects of dietary modification.

(7) £47,848 for the Department of Zoology and Comparative Anatomy for the study of cellular genes activated by Herpes Simplex virus.

CHEST, HEART AND STROKE ASSOCIATION

£21,928 for the Department of Community Medicine for "Alcohol consumption and stroke — a case-control study".

C. & S. ANTENNAS

£47,700 for the Department of Electronic and Electrical Engineering for studies of an HF circular array of active elements and design of a sample product.

COMPUTER AND SYSTEMS ENGINEERING PLC

£9,000 for the Department of Computer Science for the study of network management systems.

COMMISSION OF THE EUROPEAN COMMUNITIES

(1) 8,500 ECU for the Bartlett School of Architecture and Planning: a joint study programme development grant and student support grant in Architecture.

(2) £9,000 for the Department of Botany and Microbiology for the development of a microbial system for assessing toxicity of drugs and in which toxicity can be distinguished from target activity.

COUNTRYSIDE COMMISSION

£6,000 for the Department of Geography for an evaluation of amenity land at the urban fringe.

DARESBURY LABORATORIES

£35,536 for the Department of Physics and Astronomy for the analysis of astronomical data.

DEPARTMENT OF EDUCATION AND SCIENCE

£11,000 for the Bartlett School of Architecture and Planning for a re-appraisal of space standards and configuration in research laboratories.

DEPARTMENT OF THE ENVIRONMENT

(1) £70,000 for the Department of Civil and Municipal Engineering for a joint study, with the Catholic University of Chile, of urban traffic control in Chile.

(2) £15,186 for the Department of Civil and Municipal Engineering for a comparison of the use of COBA, CONTRAM and TRAFFIC Q for the economic appraisal of road improvement schemes in urban areas.

(3) £177,045 for the Department of Geography for "Acidification in lakes and reservoirs: diatom studies".

(4) £4,927 for the Department of Geography for the study of the nature and rate of decay in building limestones.

(5) £4,472 for the Department of Geography for "Pollutant attack on limestone buildings — Phase 1".

DEPARTMENT OF HEALTH AND SOCIAL SECURITY

(1) £2,684,000 for the Department of Mechanical Engineering: continuance funds for the Bioengineering Centre.

(2) £135,945 for the Department of Medical Physics for the design and development of new garments for incontinent females.

(3) £46,319 for the Department of Medical Physics for the development of a urodynamic measurement system.

(4) £21,155 for the Department of Medical Physics for the development of fluid fibres for lasers.

(5) £3,000 for the Department of Medical Physics for the predictive modelling of surgical procedures.

(6) £34,595 for the Department of Obstetrics and Gynaecology for the study of epidemiology of chlamydia trachomatis in the genital tract of women.

(7) £11,862 for the Department of Obstetrics and Gynaecology for the prevention of thalassaemia amongst Asians in Britain.

(8) £120,000 for the Department of Statistical Science for "Disease Modelling and information systems for clinicians (CORU)".

(9) £500 for the Department of Surgery for a study of comparative tissue reaction effects of a pulsed and continuous dye laser using Phthalocyanine as sensitizer.

DOW CORNING

£3,500 for the Department of Geriatric Medicine for the study of balloon volumes in indwelling catheters.

ECONOMIC AND SOCIAL RESEARCH COUNCIL

(1) £1,010 for the Department of Anthropology for the study of Ludwig Woltmann and the social theories of the nation at the turn of the 19/20th century in Germany.

(2) £10,350 for the Bartlett School of Architecture and Planning for "Building more resourceful communities. The role of local initiatives in environmental management".

(3) £11,680 for the Department of Community Medicine for the study of psycho-social factors and health in middle age.

(4) £24,000 for the Departments of Geography, and Botany and Microbiology, for developing a methodology for evaluating amenity land in the Urban Fringe.

(5) £19,150 for the Department of Geography for "Land occupancy and amenity in the Urban Fringe: an analysis".

(6) £99 for the Department of Geography for the ESRC/CNRS exchange scheme for social scientists, 1984-85.

(7) £3,730 for the Department of History for the study of the Dutch, their rivals and the struggle for world economic supremacy 1650-1713.

(8) £1,133 for the Department of History (Bentham Manuscripts Section) for the production of the definitive edition of the collected works of Jeremy Bentham.

(9) £13,850 for the Department of Phonetics and Linguistics for a study in derivational linguistics — the historical development of English Case morphology.

(10) £67,870 and £2,060 for the Department of Economics for "Micro-econometric modelling for tax policy analysis".

(11) £4,120 for the Department of Economics for the study of income taxation, labour supplies and inequality.

(12) £1,850 for the Department of Economics for the analysis of SIAD members' pay, working conditions and employment/unemployment experience — Open Door scheme.

ENVIRONMENTAL RESEARCH TRUST

£1,500 for the Department of Economics for the production of a major academic work on the economic measurement of environmental benefits.

E. R. SQUIBB AND SONS LTD

(1) £6,000 for the Department of Geriatric Medicine for a study of Captopril.

(2) £14,657 for the Department of Medicine for research in Diabetes.

EUROPEAN CULTURAL FOUNDATION

£12,000 for the Bartlett School of Architecture and Planning for management of the project on economic decline and the local planning process.

FISON'S LTD

£15,000 for the Department of Chemistry of the extraction of human mucosal mast cells from the intestine.

GENERAL ELECTRIC COMPANY

£10,000 for the Department of Electronic and Electrical Engineering for "Fibre Optics Remote Sensing".

GREATER LONDON COUNCIL

£6,000 and £6,000 for "Research on the Right to Rent".

HEALTH PROMOTION RESEARCH TRUST

£99,323 for the Department of Community Medicine for a controlled trial of relaxation-based behaviour modification in reducing high blood pressure and its complications.

IMPERIAL CANCER RESEARCH FUND

(1) £62,000 and £10,500 for the Department of Histopathology for the study of monoclonal antibodies.

(2) £24,000 for the Department of Statistical Science for disease modelling and information systems for clinicians.

IMPERIAL CHEMICAL INDUSTRIES

£500 for the Department of Botany and Microbiology for the study of the effects of antibiotics on Col V Bacteria.

INSTITUTE FOR BIOTECHNOLOGICAL STUDIES

£130,000 for the Department of Chemical and Biochemical Engineering for the study of the extended use of biocatalysts.

INTER MARITIME FOUNDATION

£9,000 for the Department of Biochemistry for the study of fish fermentation.

ITT CORPORATION

$30,00 for the Department of Electronic and Electrical Engineering for the design and application of digital optical logic devices exploiting optical bistability.

JOINT COMMITTEE ON POWDER DIFFRACTION STANDARDS

£1,155 for the Department of Chemistry for "Standard X-ray powder patterns".

JOSEPH ROWNTREE MEMORIAL TRUST

£2,017 and £200 for the Bartlett School of Architecture and Planning for research on empty dwellings in the Inner City.

L. B. LEAKEY FOUNDATION

$5,265 for the Department of Anatomy and Embryology for the study of enamel thickness in extant and extinct catarrhine primates.

LEVERHULME TRUST

(1) £11,050 for the Department of Economics for the study of income taxation, labour supply and inequality.

(2) £2,800 for the Department of Economics for the study of the impact of changing oil prices.

LISTER INSTITUTE

£109,062 for the Department of Experimental Pathology for a Lister Institute Research Fellowship.

LONDON REGIONAL TRANSPORT

£10,000 for the Department of Civil and Municipal Engineering for research on journey speeds in conurbations.

MEDICAL RESEARCH COUNCIL

(1) £73,650 for the Department of Anatomy and Embryology for "The control of induction and early differentiation of the nervous system".

(2) £53,500 for the Department of Anatomy and Embryology for the study of the molecular mechanisms involved in axon-Schwann cell interactions.

(3) £39,845 for the Department of Anatomy and Embryology (with the University of Sheffield) for the investigation of obsteoblastic function using cells derived from human bone.

(4) £39,430 for the Department of Anatomy and Embryology for the study of intestinal musculature in conditions of hypertrophy and atrophy.

(5) £38,300 and £450 for the Department of Anatomy and Embryology for the study of the stimulus-response relationships in the spinal cord.

(6) £17,000 for the Department of Anatomy and Embryology for the study of the role of gap junctions in development.

(7) £12,665 for the Department of Anatomy and Embryology for "The Control of Motoneurone Survival".

(8) £8,980 for the Department of Anatomy and Embryology for the topographic refinement of the retino-tectal projection in goldfish.

(9) £7,350 for the Department of Anatomy and Embryology for the study of the plasticity of nerve-muscle synapses during development in rats.

(10) £814 for the Department of Anatomy and Embryology for "GABA as neurotransmitter in the vertebrate PNS: studies on enteric neurons *in vitro* and *in situ*".

(11) £9,900 for the Department of Biochemistry for an investigation of the enzyme metabolizing a polymeric phosphoglyceroyl — ATP found in rat hearts.

(12) £54,000 for the Department of Biochemistry for " Control of brown adipose tissue thermogenesis by receptor-mediated actions of adenosine".

(13) £51,235 and £3,400 for the Department of Biochemistry for "The CDC7 gene of *Saccharomyces Cerevisiae*; sequence determination and identification and study of its gene product".

(14) £40,000 for the Department of Biochemistry for a study of the properties, and regulation, of the triacylglycerol synthesis process in brown adipose tissue.

(15) £19,333 for the Department of Chemistry for the study of the structure, function and evolution of proteins and the conformations of substances affecting the nervous system.

(16) £54,000 for the Department of Experimental Pathology for the analysis of an intracellular transport step reconstituted *in vitro*.

(17) £77,000 and £5,075 for the Department of Genetics and Biometry for human linkage studies mapping chromosome 19.

(18) £65,650 for the Department of Genetics and Biometry for molecular and genetical studies of the human Y chromosome.

(19) £99,780 for the Department of Haematology for the production, characterization and development of human monoclonal antibodies for eventual clinical use.

(20) £86,500 for the Department of Haematology for studies into the biochemistry, biophysics and cell biology of the cytochrome b-245 oxidase.

(21) £5,600 for the Department of Haematology for fluorescent cell sorter (FACS) studies.

(22) £21,000 for the Department of Psychiatry for a combined social and psychophysiological exploration of cortical dysfunction in schizophrenia.

(23) £6,750 for the Department of Psychiatry for a comparison of family sessions with a relatives group in the treatment of schizophrenic patients.

(24) £6,000 for the Department of Paediatrics for "The prevention of brain damage in new born infants who require intensive care".

(25) £154 for the Department of Paediatrics for the isolation and testing of human surfactant.

(26) £39,700 for the Department of Pharmacology for the study of suprospinal and spinal actions of opiates in analgesia.

(27) £549 for the Department of Pharmacology for investigations of cholinergic synapses.

(28) £36,000 for the Department of Physiology for the optical measurement of calcium influx into mouse neuroblastoma cells.

(29) £31,299 for the Department of Physiology for the measurement of intracellular calcium concentration in one cardiac cell.

(30) £12,240 for the Department of Physiology for the study of the functional properties for inhibiting amino-acid receptors from the spinal cord of normal and spastic mutant mice.

(31) £284,023 and £850 for the Department of Psychology for the study of normal and disordered spoken langauge comprehension.

(32) £14,900 for the Department of Psychology for a pilot investigation of the role of conductive mechanisms in feedback of the voice.

(33) £57,250 for the Department of Zoology and Comparative Anatomy for "Antibodies, rapid freezing and molecular genetics as probes for cytoskeletal structure and function".

(34) £39,600 for the Department of Zoology and Comparative Anatomy for studies in immunological suppressor cells: T cells, veto cells, dendritic cells.

(35) £23,500 for the Department of Zoology and Comparative Anatomy to investigate how individual nerve cells recognize their appropriate target cells to make correct synaptic connections.

MICRA LIMITED

£10,000 for the Department of Surgery for research into anastamosis.

MINISTRY OF AGRICULTURE, FISHERIES AND FOOD

£68,535 for the Department of Clinical Pharmacology for the study of the influence of inducers of enzyme activity in the large intestine on activation and co-valent binding of carcinogens and carcinogenic effects in the large bowel.

MINISTRY OF DEFENCE

(1) £35,000 for the Department of Chemical and Biochemical Engineering for a study on microstructure of powder compacts.

(2) £22,715 and £700 for the Department of Chemistry for "Resonance Raman Spectroscopy of Explosives".

(3) £38,038 and £7,268 for the Department of Computer Science for a research study into distributed data bases.

(4) £13,000 for the Department of Computer Science for the provision of internetworking services for use in RSRE research.

(5) £35,389 for the Department of Electronic and Electrical Engineering for ultrasonic propagation studies.

(6) £24,898 for the Depatment of Electronic and Electrical Engineering for the study of array-fed reflector antennae.

(7) £11,415 for the Department of Electronic and Electrical Engineering for the study of lens fed conformal antenna arrays.

(8) £31,790 for the Ergonomics Unit (Department of Psychology) for human factors research associated with the application of IKBS and MMI techniques to decision aids.

(9) £17,476 for the Ergonomics Unit (Department of Psychology) for the study of the use of colour on plan displays.

(10) £44,017 for the Department of Mechanical Engineering for "Eddy Current NDE".

(11) £17,700 for the Department of Mechanical Engineering for smoke-extraction experiments for air-conditioned ships.

(12) £34,159 for the Department of Phonetics and Linguistics for improvements to speech synthesis-by-rule algorithms.

(13) £5,018 for the Department of Photogrammetry and Surveying for the study of weapon alignment techniques: systems and instrumentation.

(14) £49,663 and £16,466 for the Department of Psychology for the study of the behavioural consequences of exposure to high pressure oxygen.

MUSCULAR DYSTROPHY GROUP OF GREAT BRITAIN

(1) £14,406 for the Department of Anatomy and Embryology for the study of changes of motoneurone properties during development.

(2) £14,336 for the Department of Anatomy and Embryology for "Muscle development: a study of *in vitro* myotube maturation".

(3) £11,100 for the Department of Anatomy and Embryology for the study of the mechanism controlling the survival of developing mononeurones.

(4) £16,800 for the Department of Medicine for the Muscular Dystrophy treatment research programme.

(5) £10,410 for the Department of Medicine for the Muscular Dystrophy Treatment Centre.

NATIONAL FEDERATION OF HOUSING ASSOCIATIONS

£4,520 for the Bartlett School of Architecture and Planning for work on the planned NFHA Tenant Survey.

NATIONAL FOUNDATION FOR CANCER RESEARCH

$39,265 for the Department of Biochemical Pathology for studies of control of proliferation in normal and malignant cells.

NATIONAL FUND FOR CHILDBIRTH RESEARCH

£19,879 for the Department of Paediatrics for "Bilirutin toxicity in the newborn: a clinical and experimental study".

NATIONAL FUND FOR RESEARCH INTO CRIPPLING DISEASES

(1) £38,196 for the Department of Anatomy and Embryology for the study of the regulation of growth of motor nerve fibres.

(2) £4,683 for the Department of Anatomy and Embryology for the study of the role of the basal lamina in peripheral nerve regeneration.

(3) £3,086 for the Department of Genetics and Biometry for the evaluation of methods for the diagnosis of chromosome disorders in the first trimester of pregnancy using chorionic villus sampling.

(4) £13,661 for the Department of Medical Microbiology for the study of the occurrence and effects of human parvovirus infection during pregnancy.

(5) £27,312 for the Department of Paediatrics for training in research techniques in the fields of blood-brain barrier transport physiology and brain energy metabolism.

(6) £40,481 for the Department of Physiology for the study of hereditary spasticity in the mutant mouse.

(7) £6,055 for the Department of Physiology for the study of muscle function in the elderly in health and disease.

(8) £31,183 for the Department of Zoology and Comparative Anatomy for the study of the molecular basis of cell-cell recognition in synapse formation.

NATIONAL SCHIZOPHRENIA FELLOWSHIP

£8,200 for the Department of Psychiatry for the study of evoked cortical potential in Schizophrenia.

NATURAL ENVIRONMENT RESEARCH COUNCIL

(1) £24,304 for the Department of Geological Sciences for the study of early cretaceous planktonic foraminifera: affinities, evolution, systematics and applications.

(2) £31,004 for the Department of Photogrammetry and Surveying for the application of data from the spot satellite to measuring and mapping environmental data with particular reference to elevation.

(3) £35,628 for the Department of Physics and Astronomy for the measurement of the surface topography of the Antarctic ice sheet by means of satellite radar altimetry.

(4) £5,000 for the Department of Physics and Astronomy for geological studies of Mars using new Viking data and preparation for a NASA Venus mission.

(5) £32,480 and £1,620 for the Department of Zoology and Comparative Anatomy for the study of the genetic variation and reproductive success in the Red Deer.

NORTH ATLANTIC TREATY ORGANIZATION

(1) BF 213,000 for the Department of Chemistry for the study of the kinetics and mechanism of substitution in square planar complexes.

(2) BF 306,000 for the Department of Mathematics for the study of the theory of the fluctuating Maxwell Fluids near atoms and molecules.

NORTH EAST THAMES REGIONAL HEALTH AUTHORITY

£12,948 for the Department of Surgery for non-invasive methods of determining skeletal muscle functions: a new and sensitive indicator of muscle status.

NUFFIELD FOUNDATION

(1) £14,210 for the Department of Anatomy and Embryology for the study of the architecture of musculature and nerves in airways and pulmonary vessels.

(2) £3,000 for the Department of Anatomy and Embryology for the study of the osteogenesis by isolated human bone cells: substrata cell interaction.

(3) £3,000 for the Department of Anatomy and Embryology for the study of the rhythmicity of formation and resulting non-uniformity of tooth surface structure in primates and hominid fossils.

(4) £1,780 for the Department of Anatomy and Embryology for electron-microscopic identification of peptide-containing neurones in the heart and bladder.

(5) £2,314 for the Department of Anthropology for the study of the instability of mortality in London, 1680-1820.

(6) £3,000 for the Bartlett School of Architecture and Planning for the study of employment change in London, 1971-1991.

(7) £1,990 for the Department of Botany and Microbiology for the study of functional molecular sizes of membrane-protein complexes involved in photosynthetic electron transport.

(8) £3,000 for the Department of Genetics and Biometry for an investigation of the molecular genetics of the human Y chromosome.

(9) £2,181 for the Department of Geography for the study of the social welfare provision in Brazilian cities.

(10) £8,133 for the Department of Haematology for the study of the capacity of phagocytic cells from patients with rheumatic diseases to engulf and digest particles.

(11) £1,000 for the Department of Hebrew and Jewish Studies for a conference on assimilation and community in European Jewry, 1815-1881.

(12) £1,615 for the Department of Medicine for the study of unwanted toxicities of anti-cancer drugs and methods of preventing them.

(13) £2,394 for the Department of Physiology for the mapping and distribution of ion channels in sea urchin eggs using a loose-patch clamp.

(14) £2,000 for the Department of Zoology and Comparative Anatomy for molecular genetic approaches to the study of glial progenitor cell differentiation.

(15) £663 for the Department of Zoology and Comparative Anatomy for the characterization of two highly conserved cell proteins.

ROBERPHARMA LTD

£26,675 for the Department of Surgery for the study of radioimmunology, chromatography and fluorimetry.

OVERSEAS DEVELOPMENT ADMINISTRATION

£2,000 for the Department of Histopathology for histopathological services for developing countries.

RANK PRIZE FUNDS

£8,000 for the Department of Surgery for a pilot study on the anastomosis of microvessels by laser welding.

REES JEFFREYS ROAD FUND

£20,000 for the Department of Civil and Municipal Engineering for research on journey speeds in conurbations.

REGIONAL STUDIES ASSOCIATION

£10,405 for the Department of Geography for the editing of the Regional Studies Journal.

RESEARCH COUNCIL FOR COMPLEMENTARY MEDICINE

£3,450 for the Department of Psychology for the treatment of migraine by acupuncture.

ROYAL SOCIETY

(1) £6,980 for the Department of Botany and Microbiology for research on the akinetes of planktonic blue green algae.

(2) £12,500 for the Department of Chemistry for the study of solid-state NMR spectroscopy.

(3) (PAUL INSTRUMENT FUND) £36,500 for the Department of Electronic and Electrical Engineering for the construction of a photo-displacement imaging microscope.

(4) £87,169 for the Department of Geography for the study of the history of lake acidification in Norway, Sweden and the UK.

(5) £85,000 for the Department of Physics and Astronomy for ultraviolet astronomy — galactic and extragalactic stellar and interstellar studies.

(6) £82,000 for the Department of Physiology for the study of the molecular biology of mammalian synaptic inhibitory amino-acid receptors.

(7) £49,700 and £1,500 for the Department of Physiology for the study of the electrical properties of neurones in the vertebrate retina.

(8) £3,800 for the Department of Zoology and Comparative Anatomy for the study of mammals from the Forlest marble.

RUTHERFORD AND APPLETON LABORATORY

(1) £3,100 for the Department of Electronic and Electrical Engineering for the study of atmospheric propagation effects on bandwidth at frequencies in the oxygen absorption band in a town environment.

(2) £36,402 for the Department of Physics and Astronomy for support for the Starlink node.

SCIENCE AND ENGINEERING RESEARCH COUNCIL

(1) £54,460 for the Department of Anatomy and Embryology for a study of the metabolic pattern of macaque monkey prestriate cortex and its relation to connectivity.

(2) £30,100 for the Bartlett School of Architecture and Planning for the application of space syntax to work environments inside buildings.

(3) £1,362 for the Bartlett School of Architecture and Planning for the study of spatial configurations and use density at the urban level.

(4) £81,824 for the Department of Biochemistry for the analysis of the DNA sequence which directs heat-shock activation of the yeast gene for 3-phosphoglycerate kurase.

(5) £27,780 for the Department of Biochemistry for the analysis of DNA adjacent to the minor variant form of 58 rRNA gene in yeast; its relationship to the rRNA cluster and to sequence of the TY transposable elements.

(6) £15,834 for the Department of Botany and Microbiology for X-ray absorption studies of the role of metals in the oxidation of water by photosynthetic organisms.

(7) £56,955 for the Department of Chemical and Biochemical Engineering for crystallization process studies.

(8) £78,668 for the Department of Chemical and Biochemical Engineering for the study of the influence of fermentation conditions on streptomycete morphology and shear resistance.

(9) £42,504 for the Department of Chemical and Biochemical Engineering for "Image analysis for process control of fermentation".

(10) £37,166 for the Department of Chemical and Biochemical Engineering for "Scale-down in fermentation and recovery studies of enzymes and proteins".

(11) £43,650 for the Department of Chemistry for synchrotron radiation studies of positron collisions with light atoms.

(12) £25,100 for the Department of Chemistry for the homolysis of carbonium ions.

(13) £24,700 for the Department of Chemistry for "Bridging dihapto ligands".

(14) £12,200 for the Department of Chemistry for neutron scattering studies of ionically conducting solids.

(15) £68,000 for the Department of Civil and Municipal Engineering for the initiation of shear and flow behaviour of damp to wet solids at low stress levels by means of principal stress notation.

(16) £49,890 for the Department of Civil and Municipal Engineering for traffic data collection using improved image-processing techniques.

(17) £29,360 for the Department of Civil and Municipal Engineering for the development of practical phase-based techniques for traffic signal calculations.

(18) £1,750 for the Department of Civil and Municipal Engineering for an advanced research meeting in the Federal Republic of Germany on road traffic control.

(19) £8,355 for the Department of Computer Science for the provision of computer services for UK Research Workers on the US ARPA computer network.

(20) £3,000 for the Department of Computer Science for participation in Project Universe.

(21) £95,262 for the Department of Electronic and Electrical Engineering as the UCL contribution to the JOERS proposal on opto-electronic sensors.

(22) £83,062 for the Department of Electronic and Electrical Engineering for the design and application of digital optical logic devices exploiting optical bistability in GaA1As/GaAs multiple quantum well material.

(23) £75,468 for the Department of Electronic and Electrical Engineering for a GaAs-GaA1As multiple quantum well electro-optic modulator.

(24) £62,600 for the Department of Electronic and Electrical Engineering for the development of scanning microscopy failure analysis techniques: photo-displacement and joule-displacement techniques.

(25) £52,949 for the Department of Electronic and Electrical Engineering for the study of the use of frequencies in the oxygen absorption band for microcellular radio.

(26) £34,700 for the Department of Electronic and Electrical Engineering for "Optical fibres in signal processing".

(27) £34,070 for the Department of Electronic and Electrical Engineering for a UCL contribution to the JOERS programme on "Alternative Inorganic Materials for Opto-electronics"

(28) £21,772 for the Department of Electronic and Electrical Engineering for "Interactive Computing Systems".

(29) £18,230 for the Department of Electronic and Electrical Engineering for the development of microwave lenses for antenna arrays.

(30) £7,723 for the Department of Electronic and Electrical Engineering for a feasibility study of electronically steerable atmospheric optical communication teams.

(31) £35,200 for the Department of Mathematics for the study of 3-dimensional transition in boundary layers.

(32) £27,950 for the Department of Mathematics for the study of the geometry of Banach spaces and functional analysis.

(33) £24,740 for the Department of Mathematics for a Visiting Fellowship.

(34) £14,109 for the Department of Mathematics for "Dynamic stall".

(35) £11,700 for the Department of Mathematics for functional analysis and the study of analytic functions.

(36) £4,365 for the Department of Mathematics for the study of the instability of swirling flows.

(37) £480 for the Department of Mathematics for studies in convex analysis.

(38) £63,880 for the Department of Mechanical Engineering for the study of motion response and control of surface effect ships in waves.

(39) £35,706 for the Department of Mechanical Engineering for an investigation into the processes within the manifold of an S.I. engine under cold conditions.

(40) £778,500 for the Department of Physics and Astronomy for geophysical and astronomical research in space.

(41) £271,030 for the Department of Physics and Astronomy for experimental high energy Physics 1985-87.

(42) £236,570 and £25,155 for the Department of Physics and Astronomy for experimental high energy Physics 1984-85.

(43) £120,675 for the Department of Physics and Astronomy for atmospheric research 1985.

(44) £90,778 for the Department of Physics and Astronomy for "Electronics for a CCD-based Image Photon Counting System".

(45) £72,251 for the Department of Physics and Astronomy for "London-Belfast: boulder opacity collaboration".

(46) £35,287 for the Department of Physics and Astronomy for theoretical studies of positron collisions with light atoms.

(47) £32,050 for the Department of Physics and Astronomy for further developments of the CCB-based IPCS system.

(48) £31,742 for the Department of Physics and Astronomy for data reduction software for new Echelle Spectrograph at the AAO and LPO.

(49) £27,300 for the Department of Physics and Astronomy for the study of the interactions of hadrons, nuclei and quarks.

(50) £23,670 for the Department of Physics and Astronomy for "Ionisation data for fusion research".

(51) £20,035 for the Department of Physics and Astronomy for the development of a prototype multiprocessor system based on P896 future bus.

(52) £16,016 for the Department of Physics and Astronomy for a kilostream digital link between RAL and UCL for geophysics data transmission.

(53) £15,469 for the Department of Physics and Astronomy for the analysis of astronomical spectra.

(54) £12,670 for the Department of Physics and Astronomy for travel and other support for Information Technology advanced fellowship.

(55) £11,866 for the Department of Physics and Astronomy for experimental high energy Physics: equipment 1985-86.

(56) £7,358, £2,256, £2,026 and £1,604 for the Department of Physics and Astronomy for observations at AAT.

(57) £6,377 for the Department of Physics and Astronomy for the Opal experiment at LEP.

(58) £6,080 for the Department of Physics and Astronomy for observations of water vapour in molecular clouds.

(59) £5,510 for the Department of Physics and Astronomy for completion of the CCD IPCS.

(60) £5,068 for the Department of Physics and Astronomy for infra-red spectroscopy of galaxies.

(61) £3,614 for the Department of Physics and Astronomy for observations at Mt Palomar.

(62) £3,436 for the Department of Physics and Astronomy for studies of mass loss and other astrophysical problems.

(63) £3,269 and £1,535 for the Department of Physics and Astronomy for observations at UKIRT.

(64) £3,075, £2,680 and £1,742 for the Department of Physics and Astronomy for observations at SAAO.

(65) £2,930 for the Department of Physics and Astronomy for assistance with analysis data from a guest observer programme.

(66) £2,486 for the Department of Physics and Astronomy for observations at La Silla and IRTF.

(67) £1,776, £1,121, £1,114, £487 and £112 for the Department of Physics and Astronomy for observations at LPO.

(68) £1,696 and £1,386 for the Department of Physics and Astronomy for observations at Lick Observatory.

(69) £1,644 for the Department of Physics and Astronomy for Chiral models for nucleons.

(70) £1,529 for the Department of Physics and Astronomy for investigation of the Earth's bow shock.

(71) £1,300 for the Department of Physics and Astronomy for the preparation of software for the TYCHO project.

(72) £1,105 for the Department of Physics and Astronomy for observations at IRFC.

(73) £892 for the Department of Physics and Astronomy for a consortium for high resolution spectroscopy of A and B stars with space telescope.

(74) £705 for the Department of Physics and Astronomy for observations at La Palma on INT.

(75) £205 for the Department of Physics and Astronomy for a TYCHO Data Analysis Consortium meeting.

(76) £110 for the Department of Physics and Astronomy for developments for ground-based and related astronomical studies at infra-red wavelengths.

(77) £29,360 for the Department of Physiology for the study of how the force which moves chromosomes is generated and regulated.

(78) £14,941 for the Department of Psychology for the study of play in the rat: its role in determining mate choice and the development of play signals.

(79) £5,600 for the Department of Statistical Science for comparing and combining probability forecasts.

SHAPE TECHNICAL CENTRE

(1) £2,333 for the Department of Computer Science for access to the US DOD Networking Community.

(2) £1,800 for the Department of Computer Science for provision of communication services.

SIR JULES THORN CHARITABLE TRUST

(1) £72,749 for the Department of Chemical Pathology for the study of thyroid cells.

(2) £228,069 for the Department of Surgery for the Cochlear Implant Programme.

SMITH, KLINE AND FRENCH LABORATORIES LTD

£15,000 for the Department of Surgery for research into colon cancer.

THE SPASTICS SOCIETY

£14,223 for the Department of Paediatrics for the study of factors affecting the recovery of brain energy metabolism etc.

STANDARD TELECOMMUNICATIONS RESEARCH LABORATORIES LTD

(1) £11,000 for the Department of Electronic and Electrical Engineering for microstrip lenses for antenna arrays.

(2) £1,000 for the Department of Electronic and Electrical Engineering for research on magnetic sensors.

STERLING-WINTHROP GROUP LTD

£14,060 for the Department of Periodontology for the evaluation of hydroxylapatite as a graft material in patients with periodontal lesions.

SOUTH OF SCOTLAND ELECTRICITY BOARD

£27,000 for the Department of Geography for "The Loch Fleet project: sediment core studies".

TELEPHONE CABLES LTD

£2,750 for the Department of Electronic and Electrical Engineering for work on the high impedance tap.

UNITED KINGDOM ATOMIC ENERGY AUTHORITY

(1) £540 for the Department of Chemical and Biochemical Engineering for the development of crystallizer scale-up methods.

(2) £115,983 for the Department of Computer Science for "Network communications with USA".

UNITED STATES AIR FORCE

(1) $116,816 for the Department of Physics and Astronomy for "Low energy plasma detectors".

(2) $18,600 for the Department of Physics and Astronomy for the study of atmospheric structure variations.

UNITED STATES NAVY

$18,080 for the Department of Zoology and Comparative Anatomy for "Human T cell clones: an approach to immune regulation.

UNITED STATES PUBLIC HEALTH SERVICE

(1) $32,829 for the Department of Physiology for the study of neuronal synchronization.

(2) $38,540 for the Department of Zoology and Comparative Anatomy for the regulation of human T and B cell responses *in vitro.*

(3) $16,380 for the Department of Zoology and Comparative Anatomy for a Research Fellowship in Neuropharmacology.

(4) $3,000 for the Department of Zoology and Comparative Anatomy for research in Neurobiology.

UNIVERSITY OF LONDON

£25,000 and £2,080 for the Department of Genetics and Biometry for the Jacobsen Fellowship in Evolutionary Biology.

WELLCOME TRUST

(1) £63,668 for the Department of Anatomy and Embryology for the study of the rhythmicity of formation and resulting non-uniformity and anisotropy of dental tissue structure in mammals, including man.

(2) £29,965 for the Department of Anatomy and Embryology to provide funding for salaries and to contribute to the expenses of the History of Medicine Unit.

(3) £19,800 for the Department of Anatomy and Embryology for the study of medical theorists and the forging of the mechanical philosophy of 17th-century England.

(4) £13,091 for the Department of Anatomy and Embryology for study of the role of the Preventive Medical Profession in the formation of the first Ministry of Health.

(5) £13,016 for the Department of Anatomy and Embryology for the study of the innervation of cerebral blood vessels in stroke.

(6) £2,240 for the Department of Anatomy and Embryology for the study of the role of gap junctional communication in development.

(7) £546 for the Department of Anatomy and Embryology for the study of social attitudes to Medicine in the 18th century.

(8) £546 and £546 for the Department of Anatomy and Embryology for two vacation studentships.

(9) £69 for the Department of Anatomy and Embryology for the study of the distribution of small ions during early development of the mammalian embryo.

(10) £51,602 for the Department of Biochemistry for a novel probe in the study of development and differentiation in erythroid tissues.

(11) £41,502 for the Department of Biochemistry for the study of the control of mitochondrial energy production by tri-iodothyronine.

(12) £24,300 for the Department of Community Medicine for a Research Training Fellowship in Clinical Epidemiology (transferred from the London School of Hygiene and Tropical Medicine).

(13) £10,365 for the Department of Genetics and Biometry for the study of male-sterile chromosome re-arrangements, in the mouse, on the gonads and germ cells in males and females.

(14) £59,890 and £2,000 for the Department of Haematology for the study of the regulation of erythropoietic progenitor cells.

(15) £17,813 for the Department of Medicine for the study of factors influencing renal excretion of ammonium in man.

(16) £11,929 for the Department of Obstetrics and Gynaecology for the development of first trimester ante-natal diagnosis for haemoglobinopathies.

(17) £546 for the Department of Pharmacology for the study of cardiac mast cells: isolation and characteristics of histamine release.

(18) £93 for the Department of Pharmacology for the study of substance P and histamine G, their functional relationships in skin and their roles in inflammation.

(19) £63,593 for the Department of Physiology for the study of the molecular biology of peiun and other plasma proteins in relation to dev. nervous system.

(20) £19,124 for the Department of Physiology for the study of the electrophysiological properties of inhibitory amino-acid receptors from the spinal cord of normal and *spastic* mice.

(21) £17,454 for the Department of Physiology for the study of messenger RNA coding for neurotransmitter receptors in the developing brain.

(22) £11,638 for the Department of Physiology for the collaborative study of the mechanisms underlying phototransduction in rods and cones from the vertebrate retina.

(23) £3,850 for the Department of Physiology for the study of plasma proteins in embryonic development.

(24) £596 for the Department of Physiology for a vacation studentship.

(25) £546 for the Department of Psychology for the study of mechanisms used by the visual system in the high-precision encoding of spatial relationships.

(26) £84,813 for the Department of Zoology and Comparative Anatomy for the investigation of cytoskeletal structures and function by rapid freezing, antibodies, microinjection and gene cloning.

(27) £27,307 for the Department of Zoology and Comparative Anatomy for the study of the role of Ia induction in immunogenicity.

(28) £24,916 for the Department of Zoology and Comparative Anatomy for the study of murine T cell reactivity with cloned *hycobacterium leprae* antigens.

WOLFSON FOUNDATION

£12,000 for the Department of Anatomy and Embryology for further studies in neuro-anatomy.

WRIGHT TRUST

£50,000 for the Department of Surgery for "Laser angioplasty for peripheral occlusive vascular disease.

ZYMA UK LTD

£15,573 for the Department of Geriatric Medicine for the study of Lactitol.

APPENDIX VII

COLLEGE ACCOUNTS 1984-85

The Balance Sheet and Income and Expenditure Accounts for the year will be found on pages 242-243.

INCOME AND EXPENDITURE

EXPENDITURE for the year exceeded INCOME by £1,430,145. The net deficit carried forward on the Income and Expenditure Account was £4,863,812.

Income exceeded that for 1983-84 by £6,262,291 including grants from the Court of the University which increased by £3,750,917, fees which increased by £703,617 and grants for research which increased by £1,402,470.

Expenditure, including allocations to and from Reserves, was £6,163,366 more than in 1983-84. An additional £2,570,265 was spent on academic departments and services. Maintenance of premises increased by £1,202,898. An additional £315,764 was spent on administration, and miscellaneous expenditure increased by £752,580.

Income and expenditure under the main classifications in 1984-85 as compared with 1983-84 and 1979-80, are shown in the following table.

	1979-80		1983-84		1984-85	
	£	%	£	%	£	%
EXPENDITURE						
Salaries and Pensions of Teaching Staff	10,852,161	32.6	16,498,948	32.7	17,673,483	31.2
Departmental Expenses, including Library	6,987,683	21.0	9,777,272	19.4	11,173,002	19.7
Research Grants	6,593,264	19.8	12,210,319	24.2	13,532,178	23.9
Maintenance of Premises	5,737,530	17.3	7,519,730	14.9	8,722,628	15.4
Administration	1,986,642	6.0	2,929,572	5.8	3,245,336	5.8
Other	1,090,016	3.3	1,550,323	3.0	2,302.903	4.0
	£33,247,296	100.0	£50,486,164	100.0	£56,649,530	100.0
INCOME						
Endowments	331,642	1.0	332,854	0.7	394,954	0.7
Grants	20,578,640	61.4	28,092,006	57.4	31,842,923	57.7
Donations	731,176	2.2	124,161	0.2	140,091	0.2
Fees	4,497,123	13.4	5,960,151	12.2	6,663,768	12.1
Grants for Research	6,593,264	19.7	12,590,494	25.7	13,992,964	25.3
Research Training Support Grant	64,776	0.1	89,020	0.2	91,145	0.2
Other	730,615	2.2	1,768,408	3.6	2,093,540	3.8
	£33,527,236	100.0	£48,957,094	100.0	£55,219,385	100.0

EXTRA-BUDGETARY ACTIVITIES

The College administers the finances of many research projects supported from outside sources. 732 were being pursued actively at 31 July 1985. Income increased from £12,590,494 in 1983-84 to £13,992,964 in 1984-85.

UNIVERSITY COLLEGE LONDON
BALANCE SHEET AS AT 31 JULY 1985

1984		1985	
£		£	£
	FIXED ASSETS		
20,981,055	Land and Buildings		22,016,496
	INVESTMENTS at lower of cost and		
7,272,819	Market Value		7,601,930
28,253,874			29,618,426
	CURRENT ASSETS		
242,596	Stores	248,268	
5,664,646	Expenditure Recoverable from Grants	6,647,230	
1,837,925	Debtors and Amounts Paid in Advance	2,808,386	
5,010,920	Short-Term Cash Deposits	1,551,519	
145,562	Cash at Bank and in Hand	285,164	
12,901,649		11,540,567	
	Less: CURRENT LIABILITIES		
(5,242,766)	Creditors and Accruals	(4,583,209)	
7,658,883	NET CURRENT ASSETS		6,957,358
35,912,757	NET ASSETS		36,575,784
3,771,129	TRUST FUNDS		4,059,054
£39,683,886			£40,634,838
	REPRESENTED BY:		
20,900,915	Capital Reserve		21,972,128
(2,562,634)	Adverse Balance on Other Reserves		(3,851,026)
7,380,803	Provisions		8,338,043
539,145	Balance carried forward on Revenue Grants		526,865
9,654,528	Earmarked Funds		9,589,774
35,912,757			36,575,784
3,771,129	TRUST FUNDS		4,059,054
£39,683,886			£40,634,838

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31 JULY 1985

1983-84		1984-85	
£		£	£
	INCOME		
28,092,006	Grants from University Court		31,842,923
5,960,151	Fees		6,663,768
332,854	Endowments		394,954
124,161	Donations		140,091
12,590,494	Grants for Research		13,992,964
89,020	Research Council Training Support Grants		91,145
1,588,923	Contributions for Service Rendered		1,917,551
40,858	College Properties — Rents Receivable		65,946
31,137	Appropriation from Special Funds		36,168
107,490	Miscellaneous		73,875
37,194	Provision for Salary Awards at 1 August 1984		309,837
861,973	Allocation from Reserves at 1 August 1984		523,997
£49,856,261			56,053,219
	EXPENDITURE		
2,899,485	Administration	3,239,470	
35,453,713	Academic Departments	38,541,753	
1,486,974	Academic Services	1,687,068	
7,624,774	Maintenance of Premises	8,843,264	
386,417	General Education Expenditure	440,483	
679,650	Student Facilities and Amenities	715,203	
1,456,217	Miscellaneous	2,459,491	
564,267	Capital Expenditure met from Income	539,994	
309,837	Provision for Salary Awards	359,287	
523,997	Allocation to Reserves at 31 July 1985	657,351	
£51,385,331			57,483,364
(1,529,070)	EXCESS OF EXPENDITURE FOR THE YEAR		(1,430,145)
(1,904,597)	ACCUMULATED DEFICIT AT 1 AUGUST 1984		(3,433,667)
£(3,433,667)			£(4,863,812)